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British Promoters.

AT the present time, when the atmosphere is weighted with rumors of syndicates of British capitalists with hundreds of millions of dollars packed away awaiting investment, perhaps a little information about the companies who are in the investment business will be of interest.

There are in London hundreds of concerns known as promoters, who make a business of furthering commercial enterprises. As a rule these firms are not reliable. They will undertake almost anything provided it will put money in their pockets, nor are conscientious scruples allowed to interfere with their business methods. There are, however, reputable and wealthy houses who are in reality promoters, the reason for whose existence is the fact that British capital is looking for outside investment. As the ordinary percentage paid on money invested in England is two and one-half per cent., it is not at all unnatural that investments in America that pay six per cent. should be looked upon with especial favor. These promoters are the means of introducing to the British public good investments in countries outside of Great Britain, and just now particularly in the United States. Of the many companies in London that follow this business there are two of marked prominence, one of which is The Executors and Trustees Insurance Corporation, known as the "Executors," while the other is called the London Debenture Company, of which Mr. O'Hagan is manager. Both of these concerns purchase valuable plants outright, and placing the stock on the London market sell it through brokers; but their usual mode of procedure is to secure an option upon certain properties, say for two or three months, then to go to such a house as the Rothschilds and get them to underwrite them for a certain amount. It is said that any scheme that the London Debenture Company decides to float, the Rothschilds are very willing to underwrite. This being the case, of course the project cannot fall through, and must be a success as far as the sale of stock is concerned.

In the past very good judgment has been displayed by these companies in the selection of the manufacturing interests that they have taken up. Among others that the London Debenture Company has purchased, might be mentioned the plant which manufactures the well-known brand of Henry Clay cigars, and the large laboratory of the Warner Safe Cure medicines. It is this latter company that have the deal in hand with the Trenton Rubber mills—a deal that in all probability will soon be carried to a successful issue. As the manufacture of mechanical rubber goods in this country has been exceedingly lucrative, the English capitalists have been quite anxious to get hold of a portion of it. It is probable that had the present season been as favorable to the rubber shoe men, as it has been to the clothing and mechanical goods people, they also would have again been approached by the English capitalists to sell out their plants. As it is, however, that part of the business has been dropped for the present.

It is well for American manufacturers, or those interested in the rubber business in any way in this country, to remember that it is not the plan of the Syndicate to change existing methods of managing the rubber factories. In fact they are very anxious to retain the same help, the same heads of departments, and the same customers; the only difference will be that the aforetime proprietor will become, under the new regime, the agent or manager of the business, at a salary. The superintendents will not be changed unless they desire it. The same goods will be manufactured, the same salesmen employed; nor will there be any change to affect the general public. As we have before said, we do not view the "encroachment" of British capital with the least alarm; on the contrary we welcome it; and in case the Trenton deal is consummated, we shall feel that the property has gone into good hands, or perhaps we might say that it has practically remained in the same hands that have so successfully administered the business in the past.

Gratuitous and Mistaken Advice.

AMONG the many advisers of young men in New York City, the name of Mr. C. P. Huntington is pretty easily ranked the first. He comes out with an article recently, so the newspapers say, advising young men to take $10,000 and go up the Congo to buy rubber. He says that any young man who will do this will make a fortune. No doubt many of those who read this have already taken their $10,000 and started. In fact, some 10 or 15 young men of our acquaintance have taken the $10,000 or $15,000 in their vest pockets and started for the Congo. And as the walking is good they are going to foot it. As for ourselves, if we go at all, we shall want Mr. Huntington to foot it, that is, the $10,000. Speaking seriously, we are not at all sure that if any young man of average intelligence and singleness of purpose had that amount of money that he could make such an exceedingly large fortune in rubber investments in Africa. We can easily call to mind friends who have been to the Amazon in search of wealth through the purchase of crude rubber, but who returned woefully disappointed after a stay of a few short years. Nor was the disappointment all that they had to labor against, for the climate had so broken them in health that they were unfitted for the slightest mercantile life on their return to the United States. The gist of many interviews with these adventurers after fortunes at the hands of the native rubber gatherer, is that business done in those countries is conducted in such a manner that a man from the States has no patience nor can he, without long experience, learn to deal successfully with the natives. Of the many who have gone to the Congo in exploration or in machinery work, or in selling rum, during the past ten years, few have made fortunes. Rather advise a friend with $10,000, or with the ability to borrow it of Mr. Huntington, to go into the manufacture of some specialty in India rubber in this country, or to take a line of first-class goods on commission and trust to his push and ability and his chances of making friendly customers, to making a fortune, than advise him to spend the best part of his life among the gatherers of Congo ball.

"The Dangers of Electric Lighting."

OUR readers will say no doubt that this subject has been sufficiently written about already. And so it has. That is exactly what we wish to complain about. There has been far too much written about the dangers of electric lighting in the daily press, the magazines, and in the technical journals. The public at large must be heartily sick of the subject, and the electrical engineer hurls *anathema maranatha* at the head of the man who coined the phrase, and at the heads of the ignorant scribes who write so glibly about the deadly wires without in the faintest degree understanding what they write of.

The late senseless panic does little credit to us as a serious and practical people. The deaths of Feeks and Claussen were horrible enough in all conscience, but they were in no remote degree due to the carelessness of the unfortunate men themselves. The irresponsible writers on the daily papers worked the matter up into a tremendous sensation. Mr. Edison came along with his self-advertising and alarmist interviews and articles, and for a few weeks the civilized world was treated to the grotesque spectacle of the authorities of one of its greatest cities chopping down poles and wires, illegally confiscating valuable property in a childish fit of spleen and plunging the brilliantly lighted metropolis of the New World into the darkness of the Middle Ages. Almost daily we read of deaths by suffocation caused by illuminating gas, of hapless beings hurled into eternity at railroad crossings, or by boiler explosions or accidents in mines. But there is nothing very novel about those methods of taking-off ; the " mouiders of public opinion " would find it impossible to work up a sensation about such every-day events, and nobody dreams of sending out gangs of men to uproot gas mains, tear up the permanent way of railroads, pull out boilers indiscriminately, or block up mines so as to prevent their being worked.

The gist of the whole matter is that the dangers of electric lighting have been worked up into a sensation to pander to the unhealthy appetite for sensations so diligently fostered by the greater part of the daily press. The public has been so bewildered by the flood of ignorant nonsense and wanton exaggeration with which its breakfast table has been deluged for the past few months that it is in a fair way to consider every electric wire, telephone, telegraph, motor or electric light, as being charged with death-dealing properties like a keg of dynamite or nitroglycerine, only needing a touch to scatter devastation in every direction.

We are the last to deny that high-tension currents, whether continuous or alternating, are dangerous. If the circuits which conduct them are improperly constructed and imperfectly maintained, they are apt to prove dangerous both to life and property, and moreover (and this is a point which is very generally overlooked, in this country, at least), they form highly undesirable neighbors for telephone and telegraph lines. The real reform needed is a popular demand that such circuits be constructed and supervised in the most perfect manner possible, and that they be erected so as not to interfere with the efficient working of telephone and telegraph lines. The dangers of electric lighting are preventible dangers, and they are insignificant as compared with those attendant on many other industries. Before the world is very much older New Yorkers will be ashamed of the panic of 1889, and of having coined the silly phrase which heads this article.

IN the recent editorial on the purchase of the Trenton mills by the English Syndicate, we included the Mercer Rubber Company as one of the eight which were to be purchased. In that we were in error. The Mercer Rubber Company has no thought of selling out to capitalists of any name or nation, and we hereby very gladly correct the statement made. The president of the company writes us : " We wish most emphatically to deny any connection with any English Syndicate, and will state that our mills are not, and never have been for sale, and we are not in

any way represented by Trenton parties now in Europe, nor have they any authority to negotiate for us."

THE new line of steamers running direct from Providence, R. I., to various ports in South America is a project of no little magnitude. The present time is especially favorable for the formation of new commercial ties with Brazil or the cementing of old ones, and it is with a full appreciation of this fact that the line has been established. The steamers will carry cotton goods and various other manufactures that are produced in Providence and vicinity, and bring back crude rubber and any other South American products that find a New England market. It is hardly necessary to say that this move is engineered in part by energetic and far-sighted Mr. Banigan of the Woonsocket Rubber Company.

THE news of the discovery of another large ozocerite deposit in Utah is chronicled in the scientific journals, and it is said that it covers some 5,000 acres, is of specially pure nature, and can be mined easily and without risk. If this proves to be so, the chances are that the Austro-Poland deposits will be completely left in the shade.

Points About Advertising.

JOHN WANAMAKER says: "I never in my life used such a thing as a poster, or dodger, or handbill. My plan for fifteen years has been to buy so much space in a newspaper and fill it up with what I wanted. I would not give an advertisement in a newspaper of 500 circulation for 5,000 dodgers or posters. If I wanted to sell cheap jewelry or run a gambling scheme I might use posters, but I would not insult a decent-reading public with handbills. The class of people who read such things are poor material to look to for support in mercantile affairs. I deal directly with the publisher. I say to him: 'How long will you let me run a column of matter through your paper for $100 or $500?' as the case may be. I let him do the figuring, and if I think he is not trying to take more than his share, I give him the copy. I lay aside the profits on a particular line of goods for advertising purposes. The first year I laid aside $3,000; last year I laid aside and spent $40,000. I have done better this year, and shall increase that some as the profits warrant it. I owe my success to the newspapers, and to them I shall freely give a certain profit of my yearly business."

ONE of the wealthiest business men of Cincinnati, Mr. Burkhardt, recently made an address before the Commercial Club, of that city, and said in the course of his remarks:

"I have cast my mind's eye hurriedly back over my experience in Cincinnati, and I am fully convinced that in fifteen years, with the advertising I have done, I have pushed the business to a standing that it would have taken thirty years to reach without advertising. In truth, it is doubtful if I could have at all attained the results I have without the aid of newspapers. Certainly the great newspapers are the cheapest medium for making your trade known to the greatest number of people. Printed circulars may possibly reach a thousand persons whose names you know, your old customers. Your announcement in a leading journal will reach a hundred thousand whom you never heard of. Your standing advertisement is a standing notification to buyers that you are alive and there. It is a perpetual letter of introduction for your travelling salesman. He has only to mention your name for the country merchant to say: 'Oh, yes, that's the "Diamond Ham man," isn't it?' or 'That's "Rock and Rye," ain't he?' He will be twice as apt to buy as if your firm name was one he had never heard of, or, having heard of thought you were long since dead."

NEWSPAPER men in soliciting advertising are often met with the statement, "I don't need to advertise just now; I am unable to fill my orders; when business begins to slacken up, I shall, perhaps, avail myself of your columns." It is the old story of the leaky roof, which did not need repairing when the weather was fair, and could not be repaired while it rained. The wisest business men and the most successful ones, are those who keep their name prominently before the public when trade is good as well as when poor. The time to boom a town is when everybody is interested in it. When the interest fails, one might as well try to sweep back the advancing waves of the ocean, as to withstand the stampede of waning confidence. When trade is driving is the time to make one's business so well known that when the dull season comes there will still be customers to keep the manufacturer busy. Said a business man: "I must advertise if I would get good results from my men on the road. Before I advertised, my travellers entering an office would be told 'we are not acquainted with your house,' and in many cases found that they could not secure an order which, perchance, would be given to a competitor before their eyes. As soon as I began to advertise I had a different experience. My men found that it was equivalent to letter of introduction from a mutual friend. 'Oh, yes, we have noticed your advertisement, and we feel acquainted with your house.' In this influence alone our advertising pays." This is no unusual experience Men will deal with those whom they know, or of whom they have heard so much that they feel acquainted. Catalogues may find lodgment on a shelf, but the constant arrival of a reputable journal is a constant and sure reminder which, sooner or later, must bear fruit. It is the non-advertiser who complains of hard times. When everybody is rushed, it is no trick to secure custom; it is when his neighbors are idle, that the man who has wisely kept his name and goods before the public, finds himself so well known that he gets his full share of what patronage is to be had.—*Dixie.*

WHERE they landed: Newspaper advertiser—Been sending circulars to people, I see. Business rival—Um—yes, I sent out a small lot last night. How did you find it out? "I saw them scattered around the post-office floor where the people get their letters."—*Omaha World.*

Hyposulphide of Lead as a Vulcanizing Agent.

THAT sulphur has not been altogether a true friend of the rubber manufacturer, few will deny. This may be in part because this article was not properly manipulated, but even under the most favorable conditions flowers of sulphur have a harsh effect upon rubber, which the ideal vulcanizing agent should not have. Of course it is a question as to whether this ideal has been or ever will be found, and it is still another question if, when found, it will be within reach of the ordinary manufacturer, or will be barred out by price, or by some obstacle to its ready manipulation. A curative agent that is in many cases superior to sulphur, is hyposulphide of lead. It has its advantages and its disadvantages, but the former outweigh the latter ten to one. One special advantage is its freedom from blooming. Now, many manufacturers have been brought up with the idea that mechanical goods, to be properly cured, must bloom. This is wrong—the bloom simply shows that the goods are not burned; it simply proves that there is an excess of sulphur there, which is all the time coming out and leaving the goods full of minute holes, which certainly cannot help their wearing qualities. If any manufacturer could put in the exact amount of sulphur that would cure his goods, and was not forced to add any more than the rubber really needs, his goods could be cured and finished without the least bloom. This result can be reached by using a very small quantity of sulphur and a large amount of litharge, but it is only in certain classes of mould work that this is practicable. Just here is a place for hyposulphide of lead. This vulcanizing agent is used quite largely on the other side of the water under the name of "burnt hypo." For some reason in this country it never has gotten a strong hold, although its merits have been thoroughly demonstrated. In the manufacture of rubber clothing, in rubber gloves and in all goods cured in dry heat, it is especially valuable. One particularly good trait that it possesses, is that of curing the goods without danger of burning. To illustrate; a heater full of boots and shoes compounded with sulphur may be ever so carefully tended, but some pairs will be burnt while others will be under cured. With hyposulphide of lead the heat could be run a half an hour longer, and none of the goods would be ruined and all would be cured. As an offset to this would be its weight, as it is nearly of the same specific gravity as litharge, while it takes four times as much of it to effect a cure as would be used of sulphur. As a preservative of rubber its success is decidedly remarkable. Certain it is that some of the most elastic and best wearing goods ever seen in this country were cured with it. We shall not be accused of giving away trade secrets if we add a few compounds which were given us by a gentleman who for many years ran a most successful rubber manufactory in England, using hyposulphide of lead at the time when the Hancocks owned all the sulphur patents and practically owned the rubber business of the United Kingdom:

A BOOT COMPOUND. 12 lbs. Fine Para Rubber; 6 lbs. African Thimble Rubber; 24 lbs. Whiting; 8 lbs. Litharge; 8 oz. Lampblack; 2 lbs. Hyposulphide of Lead; 1½ lbs. Tar.

SOFT BLACK RING. 18 lbs. Central Rubber; 20 lbs. Whiting; 4 lbs. Litharge; ¼ lb. Lampblack; 6 lbs. Dark "Substitute;" 4½ lbs. Hyposulphide of Lead.

HEAVY CLOTHING. 12 lbs. Para Rubber; 4 lbs. Litharge; 12 lbs. Whiting; 1½ lbs. Lampblack; 1 lb. Tar and Oil; 1½ lbs. Hyposulphide of Lead.

It will be noted that these compounds are "old-fashioned," but perhaps are none the worse for that.

Every-day Work in the Factory.

BY NICK R. AUGER.

IN our last we were speaking of tubing machines, and hardly was the ink dry before we found ourselves in the possession of more matter on that subject. It so happened, that a visit to Brooklyn led us to the institution known as the Tubal Cain Iron Works. The proprietor of this place is a gentleman eighty-one years of age, to whom belongs the unique honor of having been the first builder of a tubing machine in this country. Indeed, he was identified with the early manufacturers of india rubber when Brooklyn was the centre of that industry, and his account of his experience in building this machine is quite interesting.

It was in many respects radically different from the machines now in use, although in principle it was the same, the horizontal screw being used for forcing the rubber through dies. The inventor, however, had an arrangement whereby a mandrel was fed through the centre of the die, and the rubber crowding round it, made a tube, which was cured with the mandrel still in it.

ANCIENT RUBBER GRINDERS.

Not only did this ancient iron-worker manufacture the first tubing machine, but it was in his works that the first rubber grinders used in New York were manufactured. These grinders, by the way, were far from being the perfect machines that are now produced. Indeed, of a set of rolls that went from Brooklyn to Boston, it was claimed that the iron was so soft that the running of cloth through them marred them, and made them unfit for use. This claim was not only made informally, but it was further made the basis of a suit, in which he was obliged to come to Boston to defend himself. While on the witness stand he gave to the judge and jury quite a lengthy exposition on the subject of the softness of iron, and the ease with which even hard iron can be marred by materials soft and weak in themselves. One statement that he made was at once questioned by the judge. It was to the effect that he could, with a common piece of fish-line, make a dent in a pair of hard iron rolls. To prove this, he got two plates of hardened iron, took a piece of fish-line, tied it in a knot, placed it between the plates, and then caused his smith to strike a heavy blow upon the iron. The fish-line, of course, was, by the force of the blow, reduced to powder, but on either plate could be seen the distinct mark of where it had lain. Experimenting in this same line later, this gentleman went so far as to drive a plug of common white

pine through an iron plate two inches in thickness, much to the amazement of several scientific men, who had doubted his ability to do so.

These experiments lead, very naturally, to a few reflections upon mixing, refining and calender rolls. Of course, nowadays, we have chilled iron rolls, that is, some of us have, and a piece of metal or a hard knot of fabric passing between them does little damage. But when we consider the fact that one of the largest factories in the country, not a great while ago, took out the chilled rolls and put in soft rolls instead, the question of their case becomes again of special interest. There are those, of course, who insist that the chilled roll is the only one that should be used for mixing; but while we acknowledge its many virtues, we cannot but remember that in many factories the mills whose rolls are chilled often stand idle, because they get too hot to run. This may be the fault of the piping, or of the water supply, but a soft roll in the same place would be easily cooled. In addition to this, the soft rolls will mix certainly a quarter faster than will the others. On the other hand, the soft rolls are not as durable, do not make as good refining mills, and are quite apt to break.

As to the care of soft rolls there is but little to be said. Metals, and hard objects of any kind, are supposed to be kept out of the way, for if they get into the grinder they leave their mark, which is not necessarily any great damage to the machine.

A WHITE LEAD TEST.

We happened in a factory the other day and found the superintendent out in the yard with a melting ladle in his hand full of white powder. It looked not unlike whiting, but in reply to our query he told us that it was white lead, which he was about to test. As this test would be of interest to the rubber men, we lingered to see how it was done. The operation was exceedingly simple, and took but a short time. Having filled the ladle full of the white lead, he took an oil can and poured a little oil over the top of the mass, then placed the vessel in the fire and waited until the whole of its contents had fused. When he had run the powder down to pig lead again, he weighed it, and expressed his satisfaction at finding that he had exactly a pound, which had been the weight of the powder before it was melted.

TRYING WHITING.

His original method of detecting fraud in lead, reminds us of another experiment we saw him make, with a view to learning the purity of whiting. He simply filled a cup half full of whiting, held it under a faucet, and stirring it with the finger allowed all that could to run off in the water as it overflowed the cup. In the bottom was left a certain percentage of what he called silver sand which, in reality, consisted of particles of flint or bits of cliff stone that had not been ground fine. Where he had a whiting that formed a very large sediment of this kind he called it poor, and looked around for one that gave him less. As a simple test for goods of this sort it is very good.

IT is said that the English have coined a new name for "recovered rubber," which is Yankee Para.

Letters to the Editor.

BOSTON, February 4th, 1890.

EDITOR INDIA RUBBER WORLD:—Some time since I noticed a squib in your paper, to the effect that leather scrap combined with rubber was largely used. At the time I was incredulous, and expressed myself so most emphatically to certain rubber men, who agreed with me fully. I find, however, that your statement was correct, that ground leather scrap combined with rubber shoddy is used the other side of the water, as a packing for certain valves, with great success. I find also that there are numerous patents which cover the combination of leather and rubber, and that some of them have been used successfully in making fillers for the leather shoe manufacturers.

I remember distinctly that the objection one of the rubber men brought forward, when we were criticising your statement, was that all leather contained a certain amount of oil, and were it submitted to vulcanization, it would infallibly burn. This point I have also looked up, and I find him to be right in part. It is true, however, that many of the rubber shoe companies at the present time vulcanize rubber linings in their tennis shoes without the least inconvenience, by carefully drying the oil before it is put into the heater.

G. B. S.

NEW YORK, February 7th, 1890.

EDITOR INDIA RUBBER WORLD:—A recent article in your magazine treats upon the testing of rubber shoes. I was very much interested in reading the various methods employed, and agree with you fully that the sense of touch, when carefully cultivated, will tell a man more of rubber foot wear than almost any other means. At the same time, I have a manner of trying my goods which may perhaps be of interest to your readers.

It is my custom, when I have samples of goods submitted to me, to place them outside of my window in the sunlight for a few hours and to note the effect. As it is well known to every rubber man, the sunlight will kill unvulcanized rubber in a very short time. Vulcanized gum stands very much better however. At the same time, the rays of the sunlight resting upon anything that has as much gum in it as a rubber shoe, very soon is felt, by a certain breaking down or softening of the rubber under the varnish. As a test for the quality of rubber used it is almost infallible, as I can tell very quickly whether the uppers have been made of a soft gum or whether Pará is present. Of course I do not rely entirely upon this sunlight test for my goods, but I have found in a long experience that it has its value, and I therefore take pleasure in giving it for what it is worth.

M. R.

NEW YORK, February 10th, 1890.

EDITOR INDIA RUBBER WORLD:—We notice in the January number of your valuable paper, a statement regarding the Excelsior Rubber Works, which we wish to correct. It is true that our former superintendent, Mr. McCormick, has left us; but as to carrying with him our secret processes for the manufacture of dental rubber, that is a mistake. Our most popular specialties are the IMPERIAL PINK and GIANT RUBBER. Both of these are made in the factory of our Dr. Traun, in Germany, and are the result of long and careful experiments on his part. As Dr. Traun is acknowledged to be one of the best chemists in Germany, as well as the oldest and largest manufacturer of hard rubber there, it is hardly credible that the valuable secrets of his business have been trusted outside of his own laboratory.

EXCELSIOR RUBBER WORKS,
DR. H. TRAUN, Proprietor.

New Goods in the Market.

TO MANUFACTURERS AND PATENTEES:

It is our aim to embody in this department descriptions and illustrations of all the latest novelties introduced in the market; to the end that jobbers, retailers and buyers of rubber goods generally may look here for information as to everything new that each month or season brings forth. Manufacturers and patentees are, therefore, most cordially invited to co-operate with us in making the department as complete and attractive as possible—the distinct understanding being that no charge whatsoever, either direct or indirect, will be made for these publications. Our reward will come through giving our readers valuable information; and that will be reward enough if manufacturers but give the information freely and in all cases at the earliest practicable moment.

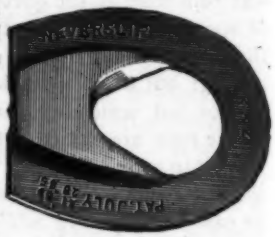
In forwarding descriptions of new goods, be careful to write on one side of the paper only; be brief, but always write enough to give the buyer a clear idea of the article you offer; give your full address, plainly written; and in all cases send a small illustration or wood cut if you have one.

THE *Scientific American* of the 1st inst. says: India rubber belting made upon a canvas basis has won extensive popularity among manufacturers. In the cut we illustrate a recent improvement that places the Monarch belting, embodying it, well in advance among its strongest competitors. Hitherto the different layers of a belt have been connected by the India rubber, and in some cases additional reenforcement is provided by longitudinal sewing. The latter is found to be an advantage, but is defective. As the belt stretches in service the thread will break, and its effects as regards the holding the layers together are then nullified. In the Monarch belt the plies are coated with India rubber, and are pressed together and united by longitudinal rows of cotton cord stays or flexible rivets. The cord is cut as inserted so as to project about one-fourth of an inch on both sides of the belt. The rubber coating covers the projecting ends, and after pressure the outer covering is applied and the whole is vulcanized. In this way the layers are permanently connected, and remain so through all longitudinal stretching to which they may be subjected. The belt is recommended where unusual strength and durability is required. For further particulars the reader is referred to the Gutta Percha and Rubber Manufacturing Co., corner Warren and Church Streets, New York City, N. Y.

—The Celluloid Novelty Company of New York are continually bringing out new, useful and beautiful goods in their particular line; their latest fad is a line of markers made of celluloid, of which the billiard marker will attract attention, as they can be rattled along the wires with a vigorous thrust of the cue and not break to pieces as the ordinary bone markers are apt to do. Aside from this they have tennis markers and whist markers, all of which are very popular.

—We were shown recently a rubber coat, four years old, made largely from Adamanta rubber, which was surprisingly good, considering the rough usage to which it had been subjected. For a year or two it had been used on board a schooner, and in places which would most severely test rubber goods, and yet it was thoroughly waterproof, and as flexible and lively as when first made. We are very glad to give this testimony because we are fully aware of the prejudice that some manufacturers have against artificial gums.

—A combination of ground cork and rubber, used in a horseshoe pad, is the invention of the Neverslip Horseshoe Company, of 36 India Wharf, Boston. This appliance is used with the ordinary horseshoe, and has the following advantages. It forms an elastic cushion, and prevents the jar and concussion incident to travel on paved streets. Slipping is greatly lessened, so that more work can be done with less effort. Shoes wear much longer when combined with pads. Snow-balling in winter is prevented. Frog pressure is created, which will cause the foot, if diseased, to return to its normal healthy condition.



—The Rainbow Packing made by the Peerless Rubber Manufacturing Company of N. Y. is especially adapted for very high pressure, and is not affected by any degree of steam heat. It will not harden under any degree of heat or blow out under the highest pressure, and will make an air, hot, or cold water joint, equally well. It conforms to rough and uneven surfaces, making a perfectly tight joint, retaining its elasticity, and will not crack or harden under any conditions. Made in sheets and gaskets, 1-32, 1-16, 3-32, 1-8, 3-16 and 1-4 inches. Full rolls weigh about 200 lbs.

—One of the most beautiful pieces of hard rubber work that we have ever seen, is the Olive Doré brand of rubber comb,

made by the Harburg Rubber Comb Company, New York. The words Olive Doré mean golden olive; nor could any two words better describe the beautiful tint that is given to the rubber by some secret processes. These combs seem to have a special strength, as they are practically unbreakable, and with this excellence and their beauty are sure to be popular in the American market.

—The Ideal Rubber Company of Brooklyn, N. Y., is one of our new firms who have attained success. They are constantly increasing their line of patent druggists sundry goods, and putting new men on the route all the time. Their goods, by the way, are handled and sold by some of the best jobbers throughout the country, and are becoming more and more popular.

—A novelty that commends itself almost immediately to the popular judgment, is a stirrup plate of flexible rubber. It is so arranged with clasps, that it may be attached to any stirrup; while its nickel-plated copper straps, and neatly corrugated surface, make it an attractive addition. Made either square or oval, and finished with the utmost care. Manufactured by the U. S. Rubber Works, Brooklyn, N. Y.

—A new and popular syringe has lately been brought out by the Tyer Rubber Company of Andover, Mass., under the name of the Tyrian Imperial Syringe, No. 21. Its main excellence is

perhaps the fact that it is a first class article at a moderate price. It is furnished with hard rubber valve boxes, three hard rubber pipes, an extra heavy bulb and excellent tubing, and is put up in an attractive octagonal box.

—The manufacture of articles embraced in the line of Mechanical Goods has become quite an important feature with the Metropolitan Rubber Company, whose extensive salesrooms are at 649 and 651 Broadway (near Bleecker Street), New York. Conspicuous in that line are pure moulded royal handhole and manhole gaskets, and plain and corrugated tubing. The former is a soft, pliable article, constructed with a view of closely fitting rough or uneven plates, as well as smooth, thereby preventing the frequent "blowing out," common to the hard gasket; while the latter is of a quality that precludes the possibility of a customer's liability to soliloquize: Tubing, or not tubing.

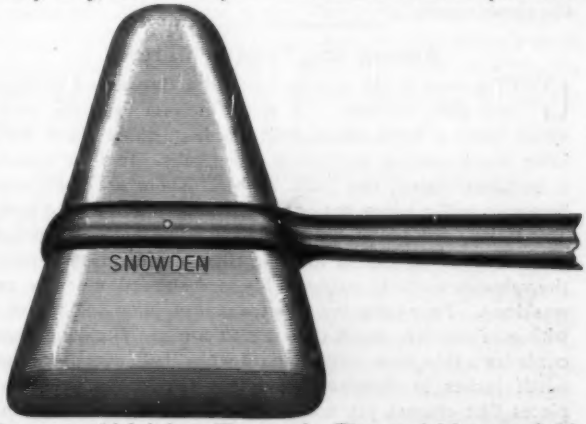
—The accompanying illustration gives a combination view

of some of the latest patterns of Mackintoshes offered by the Metropolitan Rubber Company, New York. For years past the officers of this Company have labored diligently to produce and place before the public a garment at once stylish, serviceable, reasonable in price and thoroughly waterproof. That their efforts have been rewarded is made apparent by the large addition to their plant, noted elsewhere. Perceiving growing interest in Mackintosh goods by the tradespeople at large, they have moved rapidly yet cautiously forward until now they carry in stock fully 175 different styles of men's and women's garments, so graded in price that they come within the reach of the person of moderate income as well as the man of admitted wealth. All-wool goods of permanent color are chiefly employed in the manufacture of these goods, though silk has, of late, held quite a conspicuous place among their garments designed for ladies' wear. Many beautiful specimens may be seen at their salesrooms, and merchants dealing in this line of goods may be sure of obtaining at their headquarters, 649 and 651 Broadway, an article which will satisfy the most exacting and fastidious of their customers.

—The Lycoming Rubber Company have brought out a little arrangement which will be in favor with all ladies who wear rubber shoes. It is simply a ribbon from the heel of a shoe to the button on the boot, over which a little loop slips. With this fastening it is next to impossible for even Jersey mud to pull off a rubber. The name that this Company has given this attachment is the "Hold-fast." We predict for it much popularity.

—Lightness in weight in Dental Rubber is something that is desired by both the dentist and the customer. This has been attained to a remarkable degree by the Excelsior Rubber Works, Dr. H. Traun, proprietor, whose New York office is at 335 Broadway. The new Dental Gum that they are now furnishing to the trade is, in color, a beautiful light maroon, and is forty per cent. lighter in weight than any other on the market. While other dental rubbers are sold seventeen sheets to the pound, this runs twenty-four sheets to the pound. It is also, by actual test, the strongest compound that can possibly be made.

—At a recent meeting of the Philadelphia Neurological Society Dr. J. Madison Taylor exhibited a new rubber percussion



hammer, which is here illustrated. The special feature of this hammer is that the shape of the striking surface is like the outer aspect of the extended hand, palm downward, which is most often used in obtaining tendon jerk. The rounded apex end is adapted to reach the biceps tendon at the bend of the arm.

This little tool will also well serve to elicit chest sounds, to percuss the abdomen, and, in fact, is useful whenever an elastic hammer is needed. The material being of soft rubber, the blow does not hurt the intercepting fingers as does the hammer usually employed to strike the tendons and muscles. Manufactured and for sale by Wm. Snowden, 7 S. 11th St., Philadelphia.

—Realizing from the expressions of dissatisfaction with solarized and acid-cured gossamer garments, that something better, more uniform and reliable was demanded, the Cleveland Rubber Co. were the first, as they claim, to make and place upon the market a ladies' garment thoroughly vulcanized by steam heat. In the old process, that of solarizing or exposing the cloth to the sun, the objections or defects grew out of the fact that it is cured only on the surface, or skin deep; and inasmuch as it depends upon the condition of the weather and the manner in which the cloth is placed to receive the sun's rays, uniformity of results cannot be relied upon. It is specially liable to be undercured, so that when the two surfaces of the cloth are rubbed together it will peel.

We all know what disastrous results followed the manufacture of curing by the acid process, many thousand garments being returned to the manufacturers. The trouble arises largely from the fact that, while there is danger at the start of the acid being too strong and thus over-curing or burning the cloth, towards the last of the process it will become so weakened that the cloth will be under-cured, and thus it is found almost impossible to so regulate and retain the strength of the acid as to procure uniformity, the result being that the over-cured garments became stiff and hard, while those under-cured grew soft and sticky. The objections to this process apply with equal effect to all acid and chlorine vapor processes. Another serious difficulty with all such garments is the strong offensive odor they emit.

By the new process, used by the Cleveland Rubber Co., this is all done away with, and by peculiar methods of their own, they can depend upon excellent and uniform results. All their garments hold their color, even to the electric finish. The surface will not rub off; the strength of the cloth is not impaired; no unpleasant odor is noticeable; they will not become soft and sticky, nor hard and stiff. Out of the large number of garments sold by this firm during the past eighteen months, we learn that not a single garment has been returned for any of the above causes.

Among the "Gutta" Trees.

GUTTA trees of the genera Icosandra Bassia and Willughbeia were common. A small incision into the latter, which bears a large edible fruit, exudes a thick viscid white juice, which one can wind off in round balls. In a few minutes it becomes elastic, like india rubber. There are many trees here with milky juices, but only a few harden into a good gutta. The Malays of Keddah, however, have a method of hardening some of these sufficiently to make them useful in adulterating the valuable kinds of rubber. My men showed me how this was done. They collected about a pint of juice and mixed it with common salt, which caused it to curdle. The compressed curds from this juice made a hard white ball about one and a-half inches in diameter. It is not elastic, but broke into pieces like enamel, yet not without a hard blow. The substance wants all the elastic qualities of good gutta, but still might be turned to many useful purposes. The tree from which the juice was obtained was conspicuous for its enormous leaves, shaped like a fig leaf, and often two feet in diameter. It is a species of Pterospermum [acerifolium] (?), and is common through the Malay Peninsula and China. I also noticed it as one of the most common trees in North Borneo.

It was rather amusing to notice one way in which the Malays made use of the true gutta juice. When their thin calico clothes were torn—the lacerations, I need hardly say, being frequent and considerable—they used to mend them by bringing the edges together and plastering the rent with gutta juice. This made a permanent and strong joint, with the additional advantage of being waterproof.—*J. Fenimore Woods in Gardener's Chronicle.*

A Modernized Jacob's Ladder.

MANY years ago, in the dim distant past, sacred history tells us of the dream of a man named Jacob, a dream in which an enormous ladder was projected from the ground and reached even to the sky. This vision, it seems, has in our day been duplicated in the city of Chicago, where there dwells at this time a man whose name is, as the rubber men well know, E. Bruce Preston. It seems he is largely interested in the manufacture of steam fire engines and other paraphernalia for fire departments, and last summer while sleeping sweetly in his hammock, rocked by the breeze from Lake Michigan, he, too, dreamed. His vision, which has been pictured upon canvas, and to-day is prized by many of the leading fire departments throughout the country, is essentially modern, in that it has a decidedly commercial aspect. The ladder which Mr. Preston sees projected to the skies is a magnificent ærial ladder of American pattern, and the upper end of it rests against the face of the moon. Upon it are four lusty firemen, three of whom are directing streams of water fed by their puffing engines on the earth below, against the face of the moon, which bears a look of jocular amazement. One progressive fireman has directed his stream against one of the eyes of the huge face, and has succeeded in closing it. The fourth fireman, with that heroism for which the fraternity are noted, has succeeded in rescuing an angel, and is carrying her down a ladder; quite a feat, for with her long hair and a trailing gown, she is certainly fourteen or fifteen feet long. There is only one lack about the pictured vision of Mr. Preston, which is this: He leaves the spectator in an agony of doubt as to whether his enterprising firemen, with their magnificent ladder and splendid engines, succeed in putting out this conflagration of the heavens; or whether in the dream the fire went on raging, and the heavenly bodies were all consumed.

No dealer should feel satisfied until he has made the best possible use of his store surroundings. It is quite possible without lavish expenditure to make any store both attractive and comfortable. Neatness and respectability are always accepted by the public as far higher recommendations than mere show. There are dozens of ways in which little improvements may be added with but a trifling outlay. The slack season should be selected as a proper time for carrying out these plans. A fresh coat of paint may be given to the fittings, the gas fixtures brightened and the signs retouched with but a little outside help. A change is always acceptable when a good one; hence a good plan may be to alter the position of fixtures somewhat, arrange the goods in a way that the past season's trade may have shown to be more convenient or desirable. In many such ways may the whole interior of a store be given an entirely new and fresh appearance.—*Shoe and Leather Facts.*

"During my commercial career," says Girard, "I have noticed that no advantage results from telling one's business to others, except to create jealousy or competition when we are fortunate, and to gratify our enemies when we are otherwise."

How to Wait on a Customer.

BY HUB GORE.

OUR enterprising contemporary, *Boots and Shoes*, offered a premium for the best essay upon "How to Wait on a Customer," and the following is the article which carried off the prize. It will be found to contain many excellent general rules for the guidance of young and ambitious salesmen in our own trade.

The manner in which a customer is received has much to do with the opinion he or she forms of the place, and as you do not wish the first visit to be the last it is necessary that a favorable impression be made at the start. If no sale is effected in this particular instance the recollection of the pleasant, affable greeting and polite attention received, may attract the person again to your establishment.

Every customer forms some sort of an opinion of a store, favorable or otherwise, upon entering, and the opinion then formed has much to do with controlling future patronage. Present patronage I do not consider so much in this case, from the fact that a great many consider it incumbent upon them to purchase something when they are once in, or they may be induced to buy if handled by a competent salesman.

Their future patronage, however, is largely dependent on the impression they take away with them; and this first or superficial impression, particularly in the case of ladies, is of as much importance as the quality of the goods sold.

Having done your best to create such an impression by your manner of greeting, a polite inquiry should be made as to their wants, which very little questioning will disclose to you without a direct inquiry as to price. If the answers to your questions are so ambiguous as to leave you in doubt about the price fixed on, it is better to show a medium grade of goods, first telling the quality and then the price. The reception this meets will enable you to discover whether it is a cheaper or a better article that is desired. Possessed of this information several styles should be shown and their good qualities set forth until a preference is expressed for a particular style, which should be immediately fitted, and its good points made known only after you are assured the fit is satisfactory.

The mistake should not be made of praising one style too highly before it has been fitted, since you may not be able to effect a fit, and thus create a disappointment which makes it much harder to sell another style equally as good. So much praise has been given the first that what is said of the second gives rise to the suspicion that it is said only to make the sale, the first shoe being really the better.

In no case be familiar. You can never increase your sales nor add to your dignity or self-respect by undue familiarity. If you would have your words carry weight, see that they are supported by a dignified, gentlemanly demeanor and let them be such as to bear witness to their own truth.

A little gossip, however, is not out of place, and in the interval of taking off the old shoe and putting on the new, the time can be filled in by an exchange of common-places without straying too far from the main point, that of selling the shoe. This, it is to be remembered, is what you are there for, and to make a success of it your attention must be confined strictly to that point. You should not feel yourself at liberty to discuss any question with your customers except that of shoes until after the sale is consummated. Your real duty is then at an end, and if there should be a few moments' delay while change is being made and you are not called to wait upon another customer, you can entertain this one by a little small talk upon whatever topic you see fit until he or she is ready to depart, when you should express thanks for this favor and a hope of again being of service in the future.

Have your temper under such control that you are master of it upon all occasions. Listen to all unreasonable complaints quietly and make whatever explanation you think proper, but don't be drawn into a heated argument and lose your temper. If you cannot adjust the difficulty in a quiet way, assuredly you cannot in a stormy one. If the loss of the customer is inevitable, after you have made ample apology and explanation, submit to it in a calm, dignified manner and you will have made the best of a bad bargain.

Never misrepresent the quality of a shoe to make a sale. Call buff, buff, and claim no more for the shoe than its merits. In doing this you are building your future upon a firm foundation, as the confidence begot of a truthful representation will soon establish for you a business reputation which means dollars and cents for you, whether you be proprietor or clerk.

The substitution of a size other than called for must continue to be a necessary evil so long as the vanity which prompts it exists, and misrepresentation in this case can hardly be condemned and is readily excused when discovered, for if the shoe fits and is otherwise satisfactory the size is immaterial.

In conclusion I would say that in order to know how to wait on a customer it is necessary that you should know your customers and know your stock. To be able to judge quickly and correctly of human nature is an indispensable qualification to a business man. This faculty fully developed, coupled with a good address, makes the salesman; and he should so thoroughly understand his stock that he will know just when to place back numbers where they will do the most good.

An Old Friendship Substantially Renewed.

ONE of the most successful of the rubber shoe manufacturers, on a trip to California, met at the Grand Pacific Hotel an old comrade, who was half owner of a sheep ranch on the Pacific Coast. He and his partner happened to be at war, and relating the circumstances to his friend, the rubber man promptly bought out the obstreperous partner and put his friend in as manager of the ranch. Not only did he do this, but he bought wool-scouring machinery, and before long his agent was scouring all the wool for miles around. His speculation so prospered that the next clipping of the sheep paid not only the whole of his investment but a handsome profit besides, and he is to-day one of the most prosperous ranchmen of the Pacific as well as one of the largest rubber manufacturers on the Atlantic Coast.

Fashioning Hard Rubber.

TO-DAY, when the electrical field makes so many openings for hard rubber, in cells, buttons, rods, etc., it is of interest to know just how this necessary product is manipulated. In a former article we indicated the processes undergone in the mixing of the sheet and its vulcanization. In this we are confronted by a hard, apparently inflexible matter, looking like ebony, which we are to fashion into a variety of shapes, such as combs, surgical appliances, brush and knife handles, paper knives, buttons, jewelry, penholders, etc. All these are obtained by cutting from the hard rubber plates, and are then finished off by polishing. Those objects which are flat are of course the easiest to fabricate. When certain portions are to be thinned down (as the edges of paper knives, for example,) files, or other suitable implements must be employed. Where articles require to be more or less curved, the article is first made flat, then heated in boiling water, and when sufficiently softened they are curved by application to a mould, where they immediately harden and preserve the required shape.

By similar processes, boxes and cases of any required shape, as well as telescope tubes and numerous other articles can be made. The plain or curved faces of all these objects are made separately and then united. In order to effect this union, interior and exterior moulds are provided, so constructed that the space between them shall be exactly the size of the object to be manufactured. In this intermediate space the prepared faces of the article are placed, and at the points of intended junction is put some fine powder, by rasping hard rubber. The moulds thus filled are subjected to great heat, and at the same time to considerable pressure. The result is a complete union of the parts into one solid article.

It will be readily seen that, inasmuch as hard rubber is so easily softened by heat, and is then so susceptible to impressions which it retains on cooling, advantage may be taken of these properties to produce on hard rubber plates designs of a very delicate and elaborate character. We may thus obtain figured plates, suitable for use by the bookbinder, instead of the stamped pasteboard generally used. And these hard rubber plates will not need to be covered with cloth or leather, as they can be manufactured with the color and aspect which it is intended for them permanently to preserve.

We have just now alluded to the use of hard-rubber powder in uniting the edges of the faces of the boxes, etc. This powder is also employed for the manufacture of numerous articles, such as statuettes, brooches, cameos, buttons, cane and parasol handles, and various kinds of ornaments. Under the joint influence of heat and pressure the grains of this powder agglomerate and form a coherent matter, which perfectly fills up the interstices of the mould, and may be readily covered with metallic or other ornamental incrustations.

It is possible to produce hard-rubber articles by using moulds at any earlier stage in the process, when the caoutchouc has been simply converted into paste and mixed with sulphur. In that case the vulcanization takes place while the articles are in the moulds. But a serious difficulty is generally encountered when this course is adopted. In fact, as the material of which the moulds are composed (generally tin or brass), and the caoutchouc, differ considerably as regards dilatation, it is almost impossible, or at least very difficult, to avoid the occurrence of grave defects in the articles produced. These defects may occur in the curing or in the subsequent cooling; they are sometimes remedied by filling the cavities, etc., with a solution of india rubber, and then subjecting the articles to further curing. Sometimes two moulds are employed with successful results—one to give the general shape to the article, and a second for the ornamental impressions on the surface.

There is a very ingenious method of obtaining copies of medals, objects of art, anatomical models, etc., by the use of hard rubber in a state of solution. In this process the most intricate details of the original are reproduced with astonishing fidelity and clearness.

A plaster mould of the object is first taken, and must be thoroughly dried. The interior surface is then thinly coated with caoutchouc dissolved in sulphuret of carbon, and containing, in addition to the proper quantity of sulphur to insure hardening under the vulcanizing process, the coloring matter needed to give the proper tint to the exterior of the finished article.

When the first layer is dry, which will probably be in about two hours' time, or less, a second application of the liquid (which may now be thicker in consistency) takes place. This is left till dry, and then layer after layer is added in the same manner till it is judged that a sufficiently firm coating of the interior of the mould has been effected.

The next process is to subject the mould and its rubber lining to the influence of the vulcanizer, where it remains at from eight to ten hours, acted on by the hot steam under a pressure of four atmospheres. The caoutchouc becomes vulcanized and is now completely hard, resembling horn or ivory in its resisting power, and possesses the great advantage of insensibility to the action of moisture.

On withdrawal from the vulcanizer the whole is plunged into water, then the plaster cast is removed and the surface of the article is cleaned with a hard wet brush.

Vulcanite is not attacked by solvents—neither by those which dissolve pure caoutchouc nor by the mineral acids or alkalies. On this account it is used in place of glass for cups for galvanic batteries. It is also especially distinguished by the large quantity of electricity which it evolves when rubbed; hence it furnishes an excellent material for the plates of electrical machines. One important application of hard rubber is in the manufacture of emery wheels and hones for sharpening scythes, etc.

Dental vulcanite (rubber, 16; sulphur, 6 to 8; vermilion, 12 to 16, or Para, 44; sulphur, 23; vermilion 23;) is used by dentists for plates for mounting artificial teeth. This is, perhaps, one of the most important applications of hard rubber ever made, as it greatly reduces the cost of artificial teeth. The dentist makes a cast of the mouth in

plaster of Paris, sets a plate of the plastic rubber mixture in the mould, arranges the artificial teeth in proper position, and heats the whole in a small vulcanizer, thus converting the whole into a plate and set of teeth, filling the mouth of the patient. The high charges of the patentees of this application of vulcanite drove the dentists to seek to evade the patents. The greatest success attended the efforts of J. E. Newbrough and E. Fagan, of New York, who obtained patents for hardening rubber by means of iodine and bromine. Considerable litigation resulted, which finally terminated in a compromise. It was found that rubber could be hardened by iodine and colored with oxide of iron without the aid of any sulphur, but when colored with vermilion a certain addition of sulphur was required —less, however, than the minimum of the hard rubber patents. Newbrough also succeeded in hardening rubber with a product obtained by treating oil of turpentine with oil of vitriol. At the present time, however, there is used in dental and general hard-rubber work only the old-fashioned sulphur compound. For coloring, there are a variety of pigments in use, the most important of which is vermilion.

Business Customs at Para.

THE New York *Times* tell an interesting story in relation to the experience of a rubber merchant at Para. To a very large extent, the Indians control the business of gathering, and traders barter for the cured rubber and send it to Manaos or Para to the exporters. The merchants of Manaos and Para advance to the local traders and receive consignments of rubber in payment therefor. The trader is nearly always in debt to the merchant, who must nevertheless continue his advances, because, as the trader says: "The Indians will not bring rubber, if I can't furnish supplies, and if I do not get rubber I can't pay what I owe." The trader comes once a year to the factor's house in Manaos or Para. He stays till he gets tired of civilization, as the guest of his patron, and, on leaving, puts in his "requirements" as a matter of course.

One of the great rubber dealers of Para some years ago concluded he would square accounts with his traders preparatory to retiring from business. He found on balancing his books that his clients owed him about $1,500,000. On the arrival of the visiting season the traders put in an appearance as usual, and lived for a month or two at the expense of the dealer. One day he summoned his guests to his counting room, and one by one they received a statement of their accounts. They expressed no surprise at this, but presented in turn their "requirementos." Great was their surprise and disgust when told that no more advances would be made. "But how will we pay what we owe if you will make no advances; do you suppose we can get rubber for nothing?"

The dealer replied that he would forgive what they owed and square accounts on the spot. This was adding insult to injury. They expected to pay and would pay when they got rubber, but rubber they could not get without goods to barter for it. The dealer, remaining obstinate and insisting on squaring accounts by forgiving the debts, the debtors were disconsolate. The relations of a lifetime were rudely broken and they had to form new ones or quit business. Why their former friend wanted to dismiss them in this way they could not comprehend. After writing off $1,500,000 from his books and winding up his business, the Para dealer had between four and five million dollars left to live on. His business was not a bad one after all.

This is clearly the merchant's side of the story. Had the *Times* correspondent interviewed the traders, he could doubtless have learned that the friendly generosity which wrote a cool million and a half off the books was born of some long and lofty charging.

A Curious Deposit.

WHILE the mining for metals as a whole has been a very unprofitable business, there is a species of mining, that during the past fiveyears, has been exceedingly profitable. This is the mining of valuable earths and clays for use in various manufactures. Of course of the earths on the market, the clays for brick and pottery work and the chalk for whiting are used in greater quantities than any others. There are, however, deposits here and there throughout the world, that find special uses, and which are of great advantage in many ways.

One of the most remarkable deposits that has ever been worked, and indeed the only one of its kind in the world, is the mine of silicate of magnesia at Governeur, New York, which is popularly known as the talc mine. This earth, or more accurately, this rock is found there, in great veins, which run deep into the earth, and seem inexhaustible. The rock is quite heavy, and of an exceedingly tough nature, so much so that the blasting is attended with the greatest difficulty, and after being broken and hoisted to the surface of the mine, the sledging of the smaller masses is so difficult a job, that it is one of the costly operations in reducing this to a powder. The great outlet for this mineral is found in the paper trade. It seems that the rock on being ground, could be so prepared as to present a fibre, and the idea at once occurred to the owners, that it be used in the place of wood pulp in paper manufacture. As a result, a host of the paper companies throughout the United States, and many in Germany and England, are using yearly thousands of tons of this product. A finer grade of it is used to a certain extent among the rubber men, as it forms an exceedingly good adulterant for tough goods. No matter how fine this rock is ground, there remains a certain fibre something like asbestos, and it is due to this fact that the name asbestine in given to it. In using it in rubber, it has been found that it will stand as much heat as asbestos, while it is perfectly neutral and free from sand, while it gives from its lightness, a greal bulk to the goods with which it is compounded. The company that own this deposit, are the Natural Dam Pulp Company, of 60 New Street, of whom T. W. Bayaud and J. R. Dimond are both well known to the rubber trade.

"BOASTING of what you will do is as unwise as to advertise your prosperity. If your plans are good ones some one else will catch them up and be in the field in time to divide the advantage with you. If they are not good, you may be certain no one will point out the errors in them, so that you cannot possibly gain aught by your communicativeness. The men who listen well, and are not in haste to impart their own secrets, are the ones who generally get along in the world."

The Hazelton Boiler.

A BOILER which in recent years has earned deserved popularity in the rubber trade is the Hazelton, or what is frequently called the "Porcupine Boiler." It is in use in many of the largest rubber factories in the country, and some of the testimonials to its merits which users have given are exceedingly strong. The Lambertville Rubber Company, for example, write us under date of January 29th, 1890, as follows:

We regret that we have not the results in detail to give you in regard to the Hazelton Boilers, but will say that we have now three in use, the first of which has been in service nearly four years, and it was after a year's trial of this one that we put in the other two of 150 H. P. each, the first being 120 H. P. We have had but one defective tube in all that time, and they have not been out of service a single day. We consider them the most economical boiler that we have ever used, and we have tried many kinds. They are quick steamers, and give us a better quality of steam than we ever had before, as it is to a certain extent superheated and very dry. We consider this particularly adapted for use in our vulcanizers, where the direct steam is used as the vulcanizing agent, with this exception, we suppose that they are as well adapted for any use as for the rubber business. If we were to increase our boiler capacity, we should take The Hazelton in preference to all others. We find that a man that can handle any form of boiler is equally as efficient with The Hazelton.

The Goodyear India Rubber Glove Mfg. Co. say:

We have had one 215 H. P. Hazelton boiler in constant use for the past two years, which has given entire satisfaction, and which has fulfilled all that was claimed by the makers. It is efficient, easily handled, etc. Not having made the test we cannot say just what the saving is over the regular tubular boiler.

The Goodyear Rubber Co. say:

We have one Hazelton Boiler 250 H. P. We like it so well that should we require more boiler power we would put in another of the same pattern.

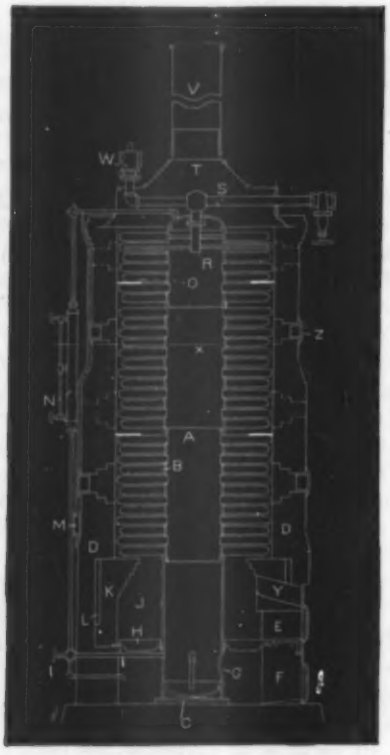
Messrs. Parker, Stearns and Sutton say:

We are familiar with the Hazelton Boiler, as we are using it at this time, and have been for about two years. Were we fitting up a new plant we would certainly adopt the same boiler, as we have so far received perfect satisfaction.

The Newton Rubber Co. say:

We have one of the Hazelton Boilers, of 125 horse power, which we find very satisfactory, being economical in fuel, a quick steamer, and gives us very dry steam, which for our business is an important matter.

This is testimony which tells its own story in a way that renders comment or commendation on our part altogether superfluous. The reader will, however, be interested in the construction of a boiler so highly commended, and we accordingly give herewith engravings showing vertical and cross-sectional views, with an elevation showing one-half of brickwork, smoke-stack and smoke-hood removed, the latter of which gives an idea of how the boiler is placed in actual operation. A is the standpipe, into which are securely expanded the radial tubes B. The foundation C and brickwork enclosure D, represent the masonry walls of the ordinary boiler. E is the



furnace door, F the ash-pit door, G the manhole, Y the furnace door arch, Z sight doors, H the grate bars, and J the deflecting furnace, of which K forms the fire-brick deflector, and L the air space insulating the latter from the brickwork enclosure, and permitting the introduction of air from without through various openings into the furnace above the fire. The fittings differ little from those of any first-class steam boiler, M being the steam gauge, N the water column, S the steam pipe with valve, T the smoke-hood, V the smoke-stack, W the safety valve and X the water line of the boiler. At O deflecting plates are placed, and R is the steam drying device, which are among the special features of this boiler.

The peculiar construction of the deflecting furnace insures thorough combustion of all fuel products and the complete utilization of their calorific value; the currents of heat being by its form, and by the employment of the deflecting plates above, turned inwards to the standpipe, where the radial tubes are closer together, and the heating surface of a charac-

ter to absorb all the heat generated, insuring rapid and economical steaming, thorough circulation, and the effectiveness of all heating surface. The arrangement of the radial tubes, with one end free, provides for perfect freedom for expansion and contraction, while the free position of the boiler with regard to its brickwork enclosure, prevents tendency to leak or strain from this cause.

This boiler can be entered through the manhole in lower end of the standpipe, and every square inch of its interior surface examined and cleaned, and all dust deposits removed from its exterior surface, by introducing a steam or air hose, with a rose head nozzle, through sight doors in brickwork enclosure. No brick chimneys are required; it is very durable, contains no cast-iron, except the manhole plate, grate bars and door fronts. It is light in weight, simple in construction, easily repaired, and the makers claim unreservedly that it is absolutely safe, even under exceedingly high pressures. It produces rapidly and economically an abundance of dry steam, while where the consumption of refuse material or the utilization of waste heat from furnaces is an object it can be employed with the best results. This company already has between 300 and 400 boilers at work in nearly all the principal industries in this country, and some have been sent abroad. They are made in sizes ranging from 50 to 500 H. P. inclusive, and the best testimony as to the character of the materials and workmanship employed in their construction is found in the fact that the first or experimental boiler (275 H. P.), started by the company on August 8th, 1880, although worked day and night, is still in active service and has not required repairs. For further particulars address The Hazelton Boiler Co., New York.

The King of Brushes.

THE rubber business has always been one in which special lines of manufacture have called for special genius, and have many times proved that the hide-bound axioms of the trade are not worth the paper they are written upon. The thought that provokes this statement, is the peculiar and successful methods of handling rubber that became necessary at the Rubber and Celluloid Harness Trimming Works in Newark, N. J., when the rubber set and bound brush was brought out.

It was long ago that Mr. Andrew Albright felt that some new method was needed for joining the handle and the bristles of a brush, in such a way that not only would it not give out from any strain, but that the jointure would stand any sort of acid or ordinary solvent. As a a rubber man, his mind was naturally turned to rubber, and he tried a host of experiments, but it was long before he was able to overcome the mechanical difficulties that lay in the way of making a perfect brush of this kind. During a recent visit to his large plant, we had an opportunity of thoroughly inspecting the brush-making department, and it gives us pleasure to describe it.

The first process in this manufacture is the weighing out and sorting of the hair, and for this special help are required and special measures used. The hair once bunched in the shape in which it is to be used in the brush, it is wound tightly with cords and taken to the dipping room for its first introduction to the rubber. In this dipping room are perforated tin plates, upon which the brush is allowed to stand upon its butt end, and a bath of rubber cement is then forced up through the perforations in the plates and allowed to soak into the bristles. After having thoroughly penetrated the hair, they are raised up and allowed to drip, and finally to dry. When they are thoroughly dry, the rubber end is placed upon a small vulcanizing table, which has slots in it designed expressly to receive the end of the hair that has the rubber. This, when placed in that position, cures, and is what might be called semi-hard. The next process is driving the handle into and round this hard rubber end, and then winding it with a sheet of unvulcanized rubber. This rubber must next be cured, and for this the brush is carried into the press room, where stand twenty steam presses of singular construction. They look not unlike the ordinary screw steam press, and yet they are so narrow that the handle of the brush sticks out from the mould on one side and the hair upon the other. The heat from the presses constantly rising, gives such a current of air round brush and handle, that, during the high heat of vulcanization, they are not injured in the slightest degree. These presses by the way are manufactured by Burrows of Newark, and are remarkably adapted for this work, and are fine pieces of workmanship. Each press can cure about two thousand brushes a day. The ordinary cure is three hours in length, but for some of the very large brushes, the heat is run five hours at eighty-five pounds pressure.

All sorts of brushes are made by this company, with this rubber binding and setting, and all sorts of hair is used, from that of the sable costing $30.00 an ounce, to the strong, tough bristles of the Russian hog. Throughout the country, the painters and others are becoming more and more attached to this brush, which they find has remarkable wearing qualities. It makes also an especially good brush for rubber manufacturers. When used as a cement brush, the naphtha has no effect at all upon the hair or hard rubber setting; while with an ordinary brush, the common setting soon gives way, and the bristles come out under this penetrating solvent.

POLITENESS in business pays. The man who waits upon a customer with an air which seems to indicate that it is an annoyance to him to show goods and answer questions about them, is sure to suffer in consequence. Then, if you are a merchant, you cannot afford to be rough and uncivil to persons who may approach you with some other purpose than to buy goods; such persons might become your customers, if treated courteously. It is not always an easy matter to smile and speak pleasantly, but the result is well worth the effort. Those who think a gruff, cynical manner of dealing with men will be regarded as a trait of a sagacious business man, make a serious mistake. If you are troubled with dyspepsia or a disordered liver, hire an extra clerk and keep out of sight of customers. It will pay you.—*Shoe and Leather Facts.*

MINDING one's own business means also to be thoroughly posted about that business. Every branch of trade has its own journal to-day, and that merchant, be he retailer or wholesaler, who neglects to avail himself of these helps is not a very far-seeing man. Week in and week out these journals come to you, and bring the latest intelligence to be gained about actual or prospective changes in prices. Drummers may prophecy higher prices, but here is your paper predicting otherwise, and you are not tempted into making an order. A trade journal is an absolute necessity, if one is anxious to do his best. It is not money thrown away, but money invested in buying goods, and pays a very large dividend.—*From "Practical Hints," by William H. Maher.*

PETER C. BROOKS, of Boston, who left one of the largest fortunes ever amassed in that city, was once asked what rule he would recommend to a young man as most likely to insure success in mercantile life, and his answer was: "Let him mind his own business."

Root's New Water Tube Steam Boiler.

THE engraving on this page will give our readers a good idea of the construction and general appearance of the celebrated Root boiler. The patentees and makers, Messrs. Abendroth & Root Manufacturing Company, New York, have devoted many years to the manufacture of the Root boiler, and now offer it in its latest improved form as a standard sectional safety steam boiler. Briefly described it consists of a nest of inclined water tubes connected at their front and rear ends with a series of horizontal overhead drums, the water level being carried at the middle of the drums, with the fire applied under the front and raised ends of the tubes. The action of the fire is to cause an upward and forward flow in the tubes, the water thus forced from the tubes into the front end of the horizontal drum being constantly replaced by a downward flow from the rear end of the drum to the rear end of the tubes; there being, therefore, a steady continuous circulation of all the water throughout the boiler, and the steam being disengaged into the upper portion of the horizontal drums. The tubes are expanded in pairs at both ends into bored holes in cast iron headers, and when in place they are in identical conditions as regards exposure to flame, temperature of contents, etc., so that the expansion and contraction of both must be uniform. One horizontal drum with its underlying row of headers and the tubes therein, forms a separate "section" of the boiler; and it should be noted that the rows of headers at the front and back of each section, with the bends connecting them, form, at each end of the section, a single header through which the ends of the tubes in that section are all and individually connected to the ends of the overhead drums. In this manner are the connections made between the tubes and the drum to provide for the circulation of the water. For the purpose of equalizing the pressure and water level, as well as to supply feed water and take away the steam, the several sections are all connected to a common cross steam pipe and a common mud drum, located at the rear or rigid end of the boiler. From the common steam pipe two outlets connect with an overhead cross steam drum of ample capacity, to which are attached the main stop and safety valves. This drum is provided with a drip pipe leading below the water line so that condensation, if any there be, may drain back into the boiler.

The path of the downward circulation in the large boilers is from each overhead drum through its connected downtake into the common feed drum; from this, through the standpipes to the mud drum, and from the latter the water is distributed to the lowest headers of all the sections. The object of this arrangement of feed drum and standpipes is to heat the entering feed water by mingling with the descending currents from the overhead drums.

The boiler is enclosed in brick work, the headers, which are milled on their sides, forming the front and rear walls of the combustion chamber. A brick wall at the rear encloses the mud drum and the rear end of the boiler, so as to prevent undue radiation, and a chamber is thereby formed between this wall and the rear headers to which access may be had at all times even with steam up. An ornamental cast and wrought iron front is provided with the Root boiler, as are doors and frames for access to all parts for inspecting and cleaning purposes.

The distinctive feature of the Root boiler is its safety from explosion. This is attained primarily by combining in its construction only the best of materials, first-class workmanship and systematic inspection at every stage of its manufacture; which are also important factors where durability is considered. Another element of safety is the subdivision of the water into small masses, the largest bodies of water being only fourteen inches in diameter. Then again, the tubes are very strong, and under heavy pressure do not tend to actually explode. Little more than a rupture can happen. Should a tube explode, the accident would be so local and slight in amount that it would do no harm to life or property, and it would be followed by a gradual reduction of pressure on the boiler and the blowing out of its contents in a harmless way. "To make a boiler safe against rupture," say the manufacturers, "it is necessary not only to make the parts strong enough or small enough to withstand the pressure, but it is essential to provide against unequal expansion and contraction and the resulting strains on the whole structure." In the Root boiler, the manufacturers claim that every single part is free to expand and contract independently, and fire strains are absolutely eliminated. This has been accomplished by the Root patent metallic joint which serves to connect the several parts of the boiler to each other, and may be described as a yielding joint, which, while it is absolutely tight at all pressures, yet allows the connected parts to move slightly. For catalogue address the manufacturers.

WHEN I think of the towel, the old fashioned towel, that used to hang up by the printing house door, I think that nobody, in these days of shoddy can hammer out iron to wear as it wore. The tramp who abused it, the devil who used it, the comp. who got it when these two were gone; the make-up and foreman, the editor, poor man, each rubbed some grime off while they put a heap on. In, over and under, 'twas blacker than thunder, 'twas harder than poverty, rougher than sin; from the roller suspended, it never was bended, and it flapped on the wall like a banner of tin. It grew thicker and rougher, and harder and tougher, and daily put on a more inkier hue; until one windy morning, without any warning, it fell on the floor and was broken in two.—*Burdette.*

The Royle Tubing Machine.

THE accompanying engraving shows a longitudinal section of the tubing machine made bv Messrs. John Royle & Sons, Paterson, N. J., and on folio XXIV of this issue is given an exterior view of it.

This is an excellent machine for rubber and other manufacturers who use materials that become plastic when heated. It is well adapted for making all sizes of plain and corrugated seamless tubing, solid cord or rod, and various odd shapes in soft rubber, hard rubber, celluloid, and other kindred compounds. Also for insulating wire, used in electrical and similar appliances.

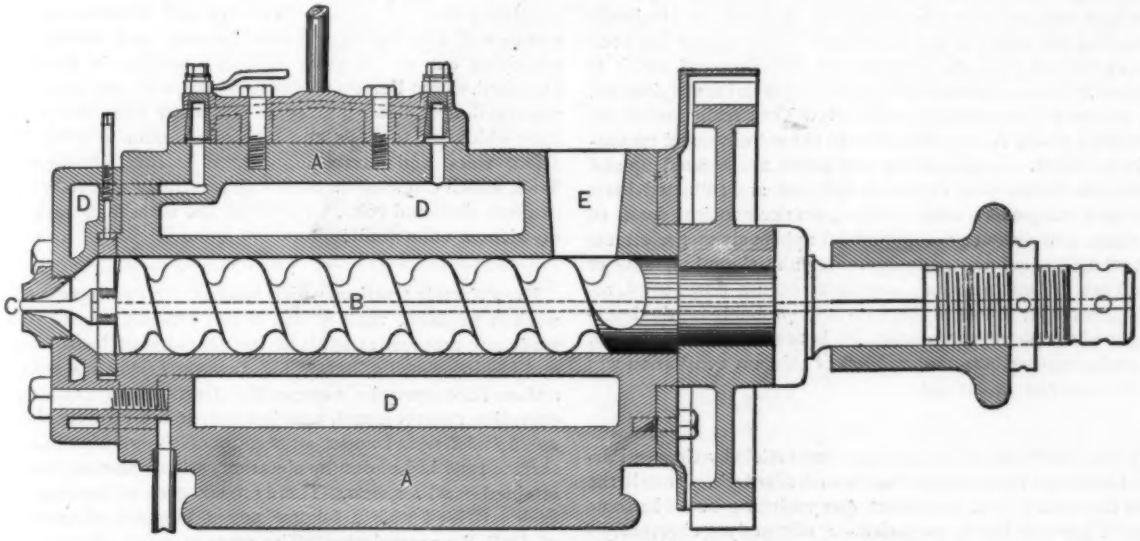
The machine has a steam jacketed cylinder, into which revolves an archimedian screw that is driven by powerful worm gearing. At the front end of the cylinder is arranged a removable head portion, which has a steam compartment that is separate from the cylinder. Into this head are fitted the dies, cores, etc., for forming the various shapes to be made. The steam compartment of the head is so designed as to impart to the die the greatest amount of heat that the steam will convey.

Valves are conveniently arranged within the chest shown on the top of the cylinder for admitting, separately, steam or water to the cylinder or the head sections of the machine, as desired. Appropriate outlet valves are separately provided for regulating the exit of condensed or waste water, and water that may be used for cooling purposes in either of these compartments. By the peculiar form of the steam compartments and the convenient arrangement of these valves the steam and water passages of the machine are under such ready control of the operator that he is enabled to maintain with great accuracy the proper temperature required for working the particular compound which the machine is turning out. This is a most desirable feature, and in this particular the machine may be said to possess important elements of advantage.

Mechanism is provided for an endless conveying apron or belt for receiving and delivering the tubing or other product as it issues from the die. By means of a lever handle, shown on the front side of the machine, the speed of the apron may be promptly varied so as to conform to the flow of the product. The apron may be used of any desired length and the product delivered and coiled directly therefrom into pans.

The arms supporting the forward end of the apron may be readily adjusted to the proper position to receive the product delivered from the die, and it may be as readily lowered to a horizontal position to facilitate the changing of dies, cores, head, etc., at the front of the machine. The dies and cores may be changed without removing the head of the machine, which is a very convenient feature. The dies are of steel, of thimble form, and are interchangeable with a series of holders by which the dies are kept in place. The cores are unusually short; are very rigidly secured to the bridge by a screw thread at their inner ends, and, by a novel method, may be adjusted laterally on a true axial line, to a position central with the die.

When it is desired to clean the machine it may be easily done by removing the stock screw; or by removing the three hexagon nuts on the head, and then by merely applying the power, the machine will clean itself.



TUBING MACHINE BUILT BY MESSRS. JOHN ROYLE & SONS, PATERSON, N. J.

E represents the opening in the cylinder, A, through which the raw material is introduced to the screw B, along which it is carried to the discharge nozzle C, which gives form to the issuing material. D represents cooling jackets.

The front part of the machine is so made that special fixtures or delivering nozzles may be attached thereto, or substituted for those supplied. To makers of insulated wire this feature is presented as a means of using such special fixtures required for that work, and usually gotten up by the manufacturers themselves.

For insulating purposes a hollow stock screw can be supplied, when desired, that is arranged for passing wire through its centre.

The machine is substantially designed, is very well made in every way, and is capable of turning out a large amount of work per day. They are now made with two sizes of cylinder, the smaller one having a capacity for running solid cord to 1⅝ in. diameter, and the larger to 2¼ in. diameter. For further particulars address the manufacturers.

WE are in receipt of a most complete and well arranged price list of rubber goods from J. H. Kohmescher & Co., of Cincinnati, Ohio. It contains nearly six hundred illustrations of standard goods, to which are added many novelties.

Current Gleanings.

BY LIGHTNING ARRESTER.

ELECTRICAL matters in New York have not been entirely without interest during the past month. The resignation of pugnacious Commissioner Gibbens from the Board of Electrical Control caused quite a flutter of excitement among the newspaper reporters, but electrical men generally are so heartily sick of the grotesque antics of their political controllers that Mr. Gibbens' retirement into private life only aroused a passing spark of interest. It is reported that Governor Hill intends to appoint an electrical expert to the vacant commissionership, but as the iniquitious reign of the Board will come to an end in a few months, any attempt to doctor up the corrupt body when mortification has already set in will be worse than futile.

* * *

Four subway explosions within a few days of each other afforded ample evidence that the engineers to the subway company have still to solve the important problem of efficiently ventilating the conduits and manholes. This danger has been present with us since the subways first came into use, and it is continually being accentuated by more or less serious explosions. The system of ventilation in use in New York really insures no ventilation at all. Air is pumped into the subways, and no outlet is provided. Consequently the gases are banked up and formidable volumes of explosive mixture are collected here, there and everywhere only awaiting a microscopical spark to fire them, and produce the periodical upheavals of the streets with which the subway company entertains the inhabitants of New York. Until a serious explosion occurs down town, resulting, perhaps, in loss of life and very probably in the interruption of telephone communication between a few hundred of the busiest subscribers, the problem of efficient ventilation will not be attacked in earnest.

* * *

"Talks with Edison" is the title of an article by George Parsons Lathrop, in the current number of *Harper's*. To tell the truth the article is a somewhat disappointing one. In some parts it has—to use a vulgarism—a distinctly "chestnutty" flavor. And perhaps we have had a little too much Edison lately. The reminiscences contained of Edison's early life in Mr. Lathrop's article we have most of us read of over and over again in all sorts of forms, and Mr. Lathrop might surely have spared us them. In the account given of the invention of the phonograph, the old story of the scratch made by a pin stuck through a vibrating diaphragm, and a study of the peculiarities of the scratch leading to the idea of the phonograph is completely ignored, and we learn that the phonograph was *logically deduced* (the italics are *not* mine) from a Morse recorder. It is sad to have the pretty story of the pin-scratch supplanted by a cold matter-of-fact *logical deduction*. After that it is scarcely to be wondered at that Mr. Edison should broadly hint that most other people's inventions are merely *discoveries*, whereas his are all the fruit of *logical deduction*.

* * *

A far more fascinating article than that referred to in the preceding paragraph is to be found in *Scribner's* for February. I mean "John Ericsson, the Engineer," by William Conant Church. It is difficult to realize the immense importance of the services conferred on mankind by the genius of Ericsson. And it is difficult to realize that we have had so great a genius as Ericsson living among us for so long without knowing more about him, about his early life and about his multitudinous achievements in the world of mechanics—which to-day is the world of every-day life. But Ericsson was not of the self-advertising sort, and he "saved himself from his friends" and refused to permit himself to be boomed. Electrical Engineers who are not gifted with a talent for discovering or inventing (by *logical deduction*), must regret that Ericsson was not born a generation or two later; if he had been, the probabilities are that his genius would have been brought to bear on problems in electrical engineering, and this age of wonders might have been already blessed with a few more of the great discoveries which the future has yet in store for us.

* * *

The electrical industries in Great Britain seem to have been remarkably prosperous during the past year and the prospects of continued activity during 1890 are highly encouraging to our British cousins. Most of the large firms of electrical engineers have been extremely busy in all departments. Central stations are springing up all over the tight little island, and isolated plants for private dwellings and business establishments, and ship lighting plants, increase and multiply to a gratifying extent. A great deal of attention is directed to Deptford, where Ferranti is trying his gigantic experiment with mammoth dynamos (think of an armature forty feet in diameter) which are to pour current into London at a tension of 10,000 volts, and alternating current at that. And yet New York, which can swallow most things, strains at a trifle of two or three thousand volts, tears down the wires and says it will do without volts at all!

* * *

Even electric traction, which has had such extremely up-hill work in England, that, so far, it can scarcely be said to have made any progress at all, is at last plucking up heart of grace and forging ahead a little. The London *Electrician* published a short time ago quite a respectable list of electric railroads, in operation and projected, and in a recent issue of the London *Electrical Review* I notice an account of the working of a short surface road in London by electricity where success has been attained in all respects. There are six cars at present in use, each provided with a 6-horse power Immisch motor run by 96 E. P. S. accumulators. The contract price charged by the traction company to the railroad company is 9 cents per car-mile, as against 13 cents per car-mile formerly paid for horse traction, or an economy of about 31 per cent., without reckoning the saving in the important item of stabling, as the six motors replace sixty horses.

* * *

While writing on English electrical affairs, I notice that the split which was threatened in the ranks of the Institution of Electrical Engineers, owing to disaffection among the telegraphic members, caused by real or fancied neglect of their interests by the leading spirits of the Institution, has been happily averted. Sir William Thomson, in his parting speech, on retiring from the president's chair, referred at some length to the importance of telegraph interests, both land and submarine, and cited some amazing figures in support of what he said. He indorsed the election to the Council of three prominent telegraph men, and spoke of the many difficulties encountered and overcome before trans-Atlantic telegraphy became an accomplished fact, laying stress on the indomitable perseverance displayed by Cyrus W. Field, the most earnest promoter of the scheme, in the face of early failures and general unbelief in the project of connecting England and America by cable.

Trade Notes.

RUBBER floor coverings of all kinds are more in vogue to-day than ever before, but it is only recently that rubber tiles have been advocated to any great extent. A suggestion of the tiled floor is found in the office of the Canadian Rubber Co., of Montreal, where the whole floor is covered with a beautiful rubber carpet, made in alternate squares of black and white, and looking like marble. An Englishman, Sir E. J. Hartland, claims an invention in this line of work, and recommends that the tiles be affixed to the floor with a cement made of one part of Stockholm tar, one part of resin, and two parts of gutta percha. The only objection that can be possibly brought against tiling of this kind is its cost; but when one reckons the long wear and the comfort to be gotten from it, and its cleanliness, it will seem to be worth more than ordinary floor covering.

—The Toronto *Globe*, of a recent date, says: T. McIlroy, Jr., & Co. (the Toronto Rubber Co.) are extending their business and reputation over the breadth of British America. In front of the warehouse of the firm for the last two days a Preston Ærial Turntable Truck, purchased by the corporation of Victoria, B. C., has been on exhibition. The truck, which cost $5,000, will be accompanied to the Pacific Coast by 2,000 feet of Eureka fire hose, and should be a valuable addition to the fire service of Victoria. Chief Ardagh, of the civic brigade, and the fire chiefs of a number of surrounding municipalities, have seen the truck and have pronounced it one of the most complete made. The truck will be shipped to-day.

—That progressive firm known as the New Jersey Car Spring and Rubber Manufacturing Company, of Jersey City, have recently added a graphophone to their office and pronounce it a decided success.

—In the office of the Blake Pump Co., in Boston, is a photograph of a remarkable piece of work. It represents a fine blooded horse, upon which is seated a dignified rider, the pair being within a monster metal ring. So roomy is this great circle of bronze that it curves several feet above the rider's head, and, so broad the sweep, that the horse finds easy footing on the lower side. We coveted this, aloud, and the result adorns the editorial desk. We therefore render our thanks to Mr. Turner, of the Blake Pump Co., as well as to the De-Oxidized Metal Co., of Bridgeport, Conn. The photograph, as they describe it, is of a "ring section of a digester, made of deoxidized bronze, nine feet ten inches in diameter."

—We notice that the Tyer Rubber Company have made a new departure in the very neat and attractive advertisement which they are running in the Boston horse cars. With the approach of winter they advertise their hot water bottles for cold feet and their frictional plates for rheumatism.

—The largest set of rubber tires ever made, to our knowledge, were manufactured by the North British Rubber Company for a road steamer, which was the invention of Mr. R. W. Thompson, of Edinburgh. Each tire weighed 750 pounds and was made of the best compounded stock.

—C. L. Hauthaway & Son have long been known as prominent rubber cement manufacturers. Their works were in Lynn, and their customers among the shoe manufacturers in that city and vicinity. On the afternoon of the 27th ult., a fire caused by spontaneous combustion was discovered at their works, which gaining rapid headway, soon destroyed the entire plant. The loss was about $6,000, as the buildings were entirely uninsured.

—It is interesting to note in speaking of the infancy of the rubber business, that the first license ever issued for making vulcanized rubber clothing was granted to Jonathan Trotter, who started a rubber factory in an old brewery. He was the father of the Mr. Trotter, so well known as the Treasurer of the National Rubber Company, and later as Advisory Superintendent of Lowenthal and Morganstern's rubber factory in Jersey City. His experience also embraced the superintendency of the glove company at Naugatuck, and an intimate relation with the Rider Brothers in Harlem.

—Mr. Shepard, President of the Goodyear Rubber Clothing Co., has been for some days ill at home with a severe attack of the grip. After the first attack he ventured down to the store one morning against the advice of his physician, and had a relapse, but is now recovering rapidly, and manages to get to his office for a time each day.

—A name very well known in Pennsylvania is that of R. W. Dickie, Jr., the President of the new Pennsylvania Rubber Company, whose location is No. 729 Market Street, Philadelphia. Mr. Dickie has associated with him J. P. Richard as treasurer of the company. Both of these gentlemen have an extensive acquaintance with the rubber buying trade of the State of Pennsylvania, and in forming this new company have the best of prospects for success.

—Mr. Elgin G. Lynds, of the Celluloid Novelty Company, has accepted a position as traveller for C. N. Clapp & Company of Boston. Mr. Lynds has a host of friends in the trade throughout New England, and without doubt he has struck the line which is well suited to his ability as salesman.

—Mr. Edward McCormick, manager of the Imperial Rubber Works of New York, is just starting on a trip of a month or more among his trade in New England. That is, we suppose he is starting, but a few days ago, with his ticket in his pocket, he was obliged to give up the idea of going for a little while, as he too had the "grip."

—It is sometimes very painful to be the possessor of a secret which one wishes to communicate. We are in that position, for but a few days since we visited the shop of Mr. C. H. Fisk, of 77 Adams Street, Brooklyn, and were permitted to examine a special machine made for a progressive rubber manufacturer. As it has been designed by Mr. Fisk for this manufacturer alone, and was to be run in a corner apart from prying eyes, we were bound upon our word not to divulge its uses. We would say, however, that Mr. Fisk, in his long experience in the Illinois watch factories and other works of that kind, has become possessed of a special faculty for the designing of labor saving machines. He is now turning his attention to fine rubber work and is meeting with considerable success in the immediate vicinity of New York. There is without doubt a considerable field for automatic machines of special designs for the manufacture of rubber goods, and it is upon this work that Mr. Fisk is now spending his energies.

—Mr. C. H. Dale, the enterprising and genial sales agent of the Peerless Rubber Manufacturing Co. of New York, soon starts to the West on a two months' trip. He will go by rail, which no doubt will delight his honest heart, as for years he was a railroad man, and never so happy as when on the move behind an iron horse.

—A breezy, business-like note from Mr. Persse Deverell, the manager of sales for the Lake Shore Rubber Works, reads: "Business is good; weather cold; the grip lessening, and I am off for Kansas City, Wishing you good luck, I remain, etc." We just want to add that Mr. D. does not wish us a bit of good

luck more than we wish him. When he is in New York again we want him to understand that the latch-string of our office is out all day long, and he is heartily welcome to call whenever he will.

—Seven years ago there was in St. Louis, Mo., a small rubber store, over which was a sign "The Day Rubber Company." The owners of this little corporation were, however, pushers, and had a keen eye for business. Were this not true they could not by any possibility have built up the large trade that they have, nor have furnished the elegant store that they now possess. Their business keeps seven travelling men at work all the time, and in the picturesque language of the Southwest, they are of the few who "git thar."

—On Main Street in Richmond, Virginia, No. 1206, is the store of the Southern Rubber Company, owned by Messrs. Mosely & Vohmer. These young men are so well known to all who sell rubber goods, and to all who buy as well, that in mentioning their names we are sure the reader will acknowledge that he has met old friends. As agents for the New York Belting and Packing Company, and carrying as they do a full line of boots, shoes and clothing, this house reaches a very large trade. They employ a number of first-class travelling men, Mr. Mosely himself covering the territory adjacent to Richmond and selling so many goods that the rest of the boys have to hustle to keep up with him. The firm do almost exclusively a jobbing business, covering a territory from the Atlantic to Texas, and including all the Southern States, where their special brands of belting, the Ideal, the Dixie and the Caoutchouc, are very well known. These last named goods are manufactured expressly for them by the Lake Shore Rubber Works of Erie, Pennsylvania.

—Mr. Samuel Cabot, the well-known Boston manufacturer of lamp black for use in rubber manufacture, read a very interesting paper on stains before the recent State Convention of Master Painters and Decorators in Brooklyn. Mr. L. W. How, the stenographer whose card is announced elsewhere, was the official stenographer at the same Convention, and has just returned from taking the official minutes of the National Convention of Master Painters and Decorators. He has also reported within the month the annual meetings of the Jewelers' Board of Trade, and The American Geological Society, in addition to taking the speeches at the banquets of both the Jewelers' Association and the Supreme Court Centennial Celebration. A useful man to have about at conventions of the rubber trade.

—One of the oldest rubber firms in St. Louis, and one that is exceedingly favorably well known, is George W. Sanders & Co., No. 10 North Fourth street. They are agents for the Revere Rubber Company, the Metropolitan Rubber Company, and Greyton & Knight's Rubber Belting, of Worcester, Mass. In addition to this they carry a full line of cotton belting, tubing, etc. Indeed, all goods, such as are found in a first-class rubber store, may be found here. Mr. Charles C. Peters, for sixteen years a man well known in the rubber business, has now bought an interest in this firm and taken full charge of the mechanical goods department. As he was noted as an exceedingly bright purchasing agent, there is not a doubt that he will be equally keen and bright in disposing of the goods of this firm. A special brand of Crescent Belting and Banner Hose are already making a stir in the South and West, and with the name of this house to back them will, no doubt, have an exceedingly large sale.

—A singularly beautiful piece of rubber matting was made recently by the New Jersey Car Spring and Rubber Company of Jersey City. The mat was for one of the wealthy yacht owners of New York, and had in the centre a representation of a flag in white rubber, the staff being black, the halyards and anchor red, and the anchor chain made up of alternate links of red and black rubber.

—In speaking of the Excelsior Rubber Company, it is well to remember that the registered brand of "Brook Haven" goods are made by a company of that name.

—Mr. F. S. Hume, formerly of the Acme Rubber Works, has taken a place with S. Weinschenk & Co., of New York City.

—The present winter, with its lack of heavy snows, has been a season in which the handlers of rubber boots and shoes can complain with reason of "dead stock." We are led to this reflection by the very pertinent advertisement being now run by the Boston Rubber Shoe Company in various trade papers, which teaches in a few words the lesson that there need be no "dead stock" if first-class goods be carried. It gently insinuates also that the market of the Boston Rubber Shoe Company is rarely variegated with the dead stock category, an assertion which few will contradict, knowing as they do, the high standard of excellence that this house presents in its goods.

—It is said that the Dickinson Hard Rubber Company of Springfield, Mass., has been purchased by the Newell Brothers Manufacturing Company. As one concern manufactures rubber buttons and the other ivory buttons, the two concerns will be consolidated and there will be no change in the out-put of the goods.

—Colchester, Connecticut, is well known as the cradle of the rubber shoe business. It was here that Nathaniel Hayward, backed by the capital furnished by Gov. Buckingham and others started the Hayward Rubber Company. Perhaps it is not as well known, that this historic town was the birth place of the father of the gentleman who is to-day the largest whiting and Paris white manufacture in the world, and who supplies more rubber companies than all the rest of the makers of these goods put together. Having said so much, it is hardly worth while to add, that this gentleman's name is Taintor, for it is a name that is on thousands of packages of first-class goods that are daily coming into the factories throughout the country.

—It speaks well for the durability of rubber machinery, when a machine sold more than twenty years ago, needs duplicate parts for the first time at this late day. At the factory of Wm. E. Kelley in New Brunswick, the other day, was received a letter, asking for duplicate rolls for a washer, which had been running almost continuously since war time. The amount of work that this machine has done is something enormous, and it almost seems as if it had earned its right to be pensioned and allowed to rest.

—Mr. Walter C. Chase, Treasurer of the Mason Regulator Company, is at present in Florida. We are not informed exactly what his mission is in that part of the country, but we feel sure that in a place which furnishes so much interest to the average tourist, that Mr. Chase has taken along his camera and will bring back some rare views of the summer land. We have no doubt that his sun pictures and his pen pictures of Florida, will soon be read with interest by his friends in the Boston *Herald*, which is his medium for giving delightful reviews of what he sees and captures on his various vacation trips.

—I. B. Seeley & Company, No. 25 South 11th Street, Philadelphia, have recently been awarded a beautiful bronze medal for their hard rubber goods exhibited in Barcelona, Spain. They

have also been furnished with an elegant etching, which represents the queen reviewing a magnificent trades procession, of which the various countries in the world have each made up a magnificent car. Mr. Seeley is naturally quite proud of his success in receiving these marks of distinction. and has placed the medal and the etching in his window, where it attracts much attention.

—We know of no rubber factory in this country that has so well placed signs as that of Parker, Stearns and Sutton. In riding over Brooklyn bridge, the eye naturally falls upon the huge sign of Alpha which graces the top of their factory. In passing up the river or down the river in boats, or crossing by ferry, the name of the firm or the suggestion of the goods they manufacture is pretty sure to be seen. Take it all in all, they have been about as successful advertisers as any house in the trade.

—We wish to acknowledge the reception of a beautiful Paul E. Wirt fountain pen, which is being used at the present time by our business manager with a deal of satisfaction.

—The Peerless Rubber Manufacturing Company of 34 Murray Street, have entirely remodelled their office, putting a partition through the centre of the large office room, and thus reserving considerable space for samples and stock.

—To-day, when the rubber manufacturer is of the decided opinion that the best is not a bit too good for him, his thought if he uses oxide of zinc at all, will naturally be led to that produced by the Vieille Montagne Company. From their circular lately issued, the various grades, The Antwerp Red Seal, and Green Seal, and the Paris Red Seal and Green Seal, are noted with the prices to correspond with the grade. To those who use an extra fine quality, in fact the best oxide of zinc manufactured, we would advise correspondence with the F. W. Devoe Company of New York, who are the sole agents for these goods.

—We want to say to the rubber clothing trade, that one of the biggest surprises that has ever been sprung upon that business is about to come. We cannot tell just what it is, because we are bound to secrecy, but we give them this gentle hint, that they may keep their eyes open and not be behind the times.

—The unfortunate lack of winter weather has caused a shut down at the Para Rubber Works, the length of which cannot at the present time be determined. This same dullness of sales has affected almost all of the rubber shoe companies, so that those that are running hardly know why they do not shut down. The Boston Rubber Shoe Company are running on two-thirds time. The Woonsocket has been quiet. The American, the Colchester, and the New Jersey companies have all been cutting down their product, and taking time to renovate their plants between the whiles, wishing for the snow which the winter should bring forth. The fact that January passed without any real winter weather, and that the mildness still continues, is beginning to drive the last vestige of hope from the hearts of the rubber men that the old proverb, "winter never rots in the sky," will be fulfilled.

—The Tyer Rubber Company of Boston, have removed their office from 154 Franklin Street, to commodious rooms at 50 Bromfield Street. The former manager of the sales department, Mr. G. H. Appleton, has resigned his position, and will hereafter devote himself to the care of his own property, which is quite large. His successor in the office is Mr. Fred H. Jones of Andover, who has been travelling for the Tyer Rubber Company for some time past.

—A quiet but very energetic firm is the Trades Information Bureau, located at No. 3 Tremont Place, Boston. The object of this bureau is to furnish skilled help to various trades, but more especially to the rubber trade. Mr. Kilborn, who has it in charge, has on his list numbers of men well fitted for good positions in rubber factories, and is filling many vacancies in a most satisfactory manner.

—Those who run the weather-end of this country predicted that just as soon as cold weather came the troublesome Russian influenza would disappear. Now we have had cold weather, though in no great degree, and still the grip lingers. In the New Brunswick Rubber Company twenty-five girls at one time were ill with it, and two of the heads of departments were laid up for some time. In the New Jersey Rubber Shoe Company, Mr. Deshler, the popular superintendent, was flat on his back only a week ago, with quite a severe attack of the same malady. Indeed, as we now think of it, during our last visit to New Brunswick we discovered that almost all of our friends were sick. Even energetic Mr. Kelly of the National Iron Works was laid out, and so much under the weather that he was obliged to do a considerable portion of his business at home rather than at the factory office.

—The London Rubber Manufacturing Company of Astoria, L. I., have, since their fire, entirely renovated their plant, put in new machinery, and added automatic sprinklers. They report good business and plenty of orders.

—If there is one thing more than another that the rubber boot and shoe men are yearning for, nay, verily are praying for, it is for snow. Rubber boots and arctics can hardly be given away.

—Mr. W. D. Martin, who was formerly connected with the Hoyt Rubber Company, has for the year past been travelling for C. E. Lane, the shoe manufacturer of Rockland, Mass. He still, however, keeps up his interest in rubber matters, and calling upon us the other day, gave a very pleasant resumé of his last trip among the shoe men. With him business has been very good and he is consequently feeling well and contented.

—We are delighted to hear through the American representatives of the Harburg India Rubber Company that Dr. Traun, so well known in Germany as a wealthy manufacturer and a *savant* in rubber, pronounces THE INDIA RUBBER WORLD "the best yet."

—At No. 105 Summer Street, room 12, is a gentleman well known to the rubber trade, Mr. L. W. Tyler, formerly the agent of the Mayall shoe. He, although not in the rubber business, has his headquarters at a rubber office; that of the New Jersey Rubber Shoe Company. He has provoked our notice, by dropping on the floor in front of us, a fac-simile of a pocketbook, out of which protrudes temptingly the corner of a two-dollar bill. When the avaricious Yankee stoops to pick this up, agonizing for fear somebody else has seen it first, he discovers to his chagrin that it is simply a counterfeit pocketbook, and an imitation bill, and upon it an advertisement for Nichols' custom-made shoes, etc., etc. Nevertheless the device is so unique that it is preserved and read.

—It is interesting to remember that the father of the present L. Martin, whose lamp black is so highly praised by rubber manufacturers, was the first one who essayed to make black from dead oil.

—Mr. W. P. Hayes, who at present represents the Trenton Rubber Company in England, did a most sensible thing in taking along Mrs. Hayes and the two children. We venture to predict that the presence of his family will not interfere a bit with business, and will make his three weeks sojourn a deal

more enjoyable than it would be if he had gone bachelor fashion.

—J. O. Stokes, manager of the Home Rubber Company of Trenton, and R. R. Whitehead of Murray, Whitehead & Murray, have improved the waiting time that they had in London, while closing the deal with the English Syndicate, to take a brief run through Ireland and France.

—We noted an extract through the New York *Times*, recently, relating to rubber on our war vessels It seems that the Government had been testing rubber valves with exceeding care. Of the many manufacturers who have submitted valves for these tests the Mercer Rubber Company of Trenton, N. J., had the lead. Chief Engineer Robert B. Hine, of the United States Navy, announced himself in favor of this company, and the contract for the valves of the Baltimore was awarded to them. It is but fair to competing companies, however, to say that others pressed very closely upon their heels in this friendly competition.

—Some time ago THE INDIA RUBBER WORLD stated that the mill on Assanpink Creek, known as Whitehead Brothers' factory, was the first one built in Trenton. From some of the older superintendents in that city of rubber mills, has come a kindly but decided protest to this statement, and from their information we gather these facts. The first mill was erected by Charles Meade, in 1852, on the canal at a point directly opposite the present site of The Home Rubber Company. Mr. Meade had associated with him George Dunbar of Boston, and Colonel Bird as financial partner. The second mill was built in 1857, opposite the mill of the Hamilton Rubber Company, and the building is now used as a pottery. The machinery for this mill was built by Mr. Aldredge, the superintendent of The Home Rubber Company, who was then a machinist in Trenton. In 1864 the factory now known as The Star Rubber Company, was built by William Meade, who took the place as superintendent and employed as assistant superintendent Mr. Aldredge. Soon after this Mr. Meade left and started the Mercer Rubber Company. All of these companies were started prior to the Whitehead Brothers, and yet the statement in THE WORLD is to an extent true, in that it speaks of the *mill* in which Whitehead Brothers are located as being one of the oldest in Trenton, as it was before and during the war, devoted to the manufacture of a fine grade of woollens.

—Mr. William Snowden of Philadelphia, known to the rubber trade, but better still to physicians as a surgical instrument manufacturer and dealer, has removed his store to 121 South Eleventh Street, where he has elegant quarters. The store is 150x30 feet and is beautifully fitted with cabinets and showcases, in which are displayed thousands of dollars worth of surgical instruments in steel, hard rubber and celluloid. Across the entrance is a large sign, in heavy block letters, covered with gilt, on which is the single word "SNOWDEN," a name that for years has been well known wherever fine surgical instruments are used.

—Mr. W. H. Palmer, of the Celluloid Novelty Co. of New York, is off for the West with his trunks full of beautiful samples. He expects to be gone about two months.

—The Metropolitan Rubber Company, of New York, having found their factory at Wallingford, Conn.,—a four-story building 310 ft. in length by 60 ft. in width, supplemented by two one-story buildings, 40 by 120 ft. and 30 by 180 ft., respectively, —inadequate to the task of satisfying the increasing demand for their productions, recently secured lofts containing 12,000 square feet of floor space, at 155 Leonard Street, near Centre, which they will occupy at an early date. This judicious movement will enable them to increase to a considerable extent the daily manufacture of their justly popular Mackintoshes.

—The Hon. Geo. B. Crouse of the B. F. Goodrich Rubber Co., was among the recent vistors to New York. He mentions with satisfaction the large yearly increase of the business of the Company, and the popularity that their goods have won in all parts of the country.

A retailer said to the writer a few days ago that he was somewhat skeptical about the results of newspaper advertising, so he concluded to make a good try for the three months preceding Christmas. He laid his plans in a systematic way, and offered his best lines, or what he thought was the best selling lines, to the public. A considerable amount of space was occupied in the papers, on some days a half page being occupied. The result of the three months' trial satisfied the dealer that judicious advertising paid. He had an experienced man prepare the ads., and the attractive goods in the store were boomed. It was the largest, by far, of any business the retailer had ever done in any three months, and he left the holiday trade out of his calculations. At least he timed his experiment so as to close up on the large advertising about ten days before the usual holiday rush. Notwithstanding this he had the largest retail business on the holiday run that he ever enjoyed. This shoe dealer is thus made to believe that it pays to use ink judiciously, and he has come to the conclusion that in the fall and spring of each year he will have a three months' boom in the use of ink. By and by he will come to the conclusion that it will pay him to advertise largely twelve months in the year.—*Philadelphia Exchange.*

"Tell the truth always," says a retailer, "even if you should lose an occasional customer. Don't try to bamboozle a buyer into believing that you are offering him a six dollar article for three. The average buyer cannot be caught with such chaff. It is far better to tell honestly the merits of your goods, if they have any, and at the same time admit frankly that you are making a reasonable profit. If you are selling goods at less than cost, the public will, of course, take you to be either a fool or a philanthropist, and the odds are greatly in favor of it being the former. At the same time don't be afraid to let it be known that you are in business to make money, but establish a reputation for honesty and square dealing, and it will be greatly to your advantage, even in a business way."

Review of the Markets.

THE Provincial Government at Para has reconsidered and withdrawn the concession of three-eights of a cent per pound granted to the little native export concern of which Vianna, Baron Gondoriz, is the director; and the vigorous protests of American, English and resident exporters are cited as the reasons for this sensible action. It is apparent, however, that the mild winter and the consequent light demands of the rubber boot and shoe manufacturers, furnishes the real reason for the reconsideration. In other words, Vianna failed completely in his effort to advance prices or to hold them at the speculative range which they had attained.

The threat of a monopoly of the rubber market having been thus dissipated, the speculative advance at once gave way, and fine Para declined from 72 cents to 65 cents, with other grades in proportion. The light stocks and decreased receipts began promptly, however, to manifest their influence, and in consequence the market, though dull, has shown a staunch advancing tendency. The burden of opinion seems to be that values

must continue to advance steadily, owing to the light stocks now in the hands of manufacturers and the manifest shortness of the supply as compared with previous averages; but there are some who contend that the present upward tendency is due to speculation. Our quotations fairly represent the present range of prices, and it will be observed that these figures are considerably above those at which manufacturers contracted for supplies during the past season.

In gutta percha the prices still rule high and there is no immediate prospect of a fall, as stocks are low and the demand is good.

We quote as follows:

Para, fine	69-70	Loando, Niggers	58-60
Para, coarse	48-50	Sierra Leone	38@44
Caucho (Peruvian) strip	44-45	Benguela	48-49
Caucho (Peruvian) ball	54-55	Congo	40-42
Mangabeaira, sheet	42-43	Small Ball	40
Esmeralda, sausage	52-53	Soft Ball	29
Esmeralda, strip	50-51	Flake, Lump and Ord	27-27½
Guayaquil, strip	40@43	Mozambique, spindles	45½-46
Panama, strip	38@46	Mozambique, red ball	52-52
Virgin Scrap	58-60	Mozambique, white ball	42
Carthagena, strip	25-29	Madagascar, pinky	57@58
Nicaragua, scrap	48@50	Madagascar, black	46-47
Nicaragua, sheet	46@48	Borneo	36@45
Mexican, scrap	47@48	Gutta percha, fine grade	1.50
Mexican, sheet	48@49	Gutta percha, medium	90-1.00
Guatemala, sheet	42@43	Gutta percha, hard white	95
Thimbles	41@42	Gutta percha, lower sorts	50
Tongues	36@37		

The following statistics indicate the current movement in stocks of Para rubber:

STATISTICS OF PARA RUBBER.

Stock of Para here, Dec. 31st,			about		775,000 lbs
Receipts	"	January,	"		2,650,000 "
Deliveries	"	"	"		2,145,000 "
Stock	"	Jan. 31st, 1890,	"		1,280,000 "
"	"	"	1889,	"	1.600,000 "
"	"	"	1888,	"	2,070,000 "

We are indebted to Messrs. Simpson and Beers, Brokers in Commercial Paper for the following report of the money market: Since the middle of January money has been abundant and rates for first-class double name rubber notes, 3 to 6 months to run, have ranged from 6 to 6½. They have been readily taken, too, there having been a constant demand for them from banks. The supply of single and endorsed paper is limited; and although the rubber boot and shoe manufacturers have had an unsatisfactory season, they have put but little paper on the market. In the spring possibly there may be more. New Southern enterprises continue to attract capital from our monied centres, and this in connection with the steady mercantile demand will prevent any low rates for money.

Free Want Department.

Manufacturers in need of Managers, Superintendents, Foremen and help generally, are invited to make free use of this Department; and all persons seeking situations in the rubber or electrical trades, are cordially invited to do likewise. Advertisements of Machinery and Supplies Wanted will also be inserted free of charge. And, in all cases, if the first insertion of the advertisement does not accomplish the result, its repetition is desired by us.

WANTED—By a man thoroughly posted in the manufacture of rubber boots and shoes, clothing, etc., a position as foreman of mixing and calendering. Best of references as to ability and success in the past. Address "B," INDIA RUBBER WORLD.

WANTED—In a large manufactory of mechanical rubber goods, a man as assistant superintendent, who has experience and lots of push. Must be a worker from the word "go," and will secure pay accordingly. Address "B. A.," INDIA RUBBER WORLD.

WANTED—Situation by an engineer who understands the setting of rubber machinery, piping, etc., and has been accustomed to all sorts of jobbing about a rubber mill. Good references. Address "G.," INDIA RUBBER WORLD.

FOR SALE—Vulcanizer, almost new, 4x12 feet; cost, $300; price, $150. Address "D.," INDIA RUBBER WORLD.

FOR SALE—one steel vulcanizer, 5x13. Address "P. O. Box 297," New York.

FOR SALE--Seven 72-Carrier Braiding Machines. Address "P. O. Box 297," New York.

WANTED—A position by a thoroughly competent young lady stenographer, who has had two years' experience and can furnish best references. Address C. MORGAN, care of Rubber Works, Akron, Ohio.

WANTED—By a young American, who is thoroughly posted in the manufacture of either hand or machine-made tubing, also round or square piston packing, a position in a factory where this knowledge will be useful. Address "J. D. M." INDIA RUBBER WORLD.

WANTED—By a young American man, a skillful cutter, twenty-five years old, a hustler at work, a position in cutting-room, either first or second in charge. Address "M. L. T.," INDIA RUBBER WORLD.

WANTED—By an expert rubber boot or shoemaker, who is at present employed in one of the best factories in the country, the charge of a shoe or boot room. Address "W. L. G.," INDIA RUBBER WORLD.

WANTED—By a young man, who is a skillful hand at running oilcloth calender and flocking goods, but who wishes to become equally skillful on rubber calendering, a position. Place desired rather than pay; is not out of a job, but is ambitious to reach a higher plane of work. Address "L. W. F.," INDIA RUBBER WORLD.

WANTED—Specialty or novelty to handle to the trade. Druggists, Stationers or Physicians; references. Address H. SUNLEY, 151 Griswold street, Detroit, Mich.

WANTED—A good second-hand vulcanizer, about 3x6, cheap. Also tubing machine and small press. Must be low-priced. Address "H.," INDIA RUBBER WORLD.

WANTED TO PURCHASE—A sixty-six inch three-roll calender. Must be in first-class condition for nice work. Address "S. P. Q. R.," INDIA RUBBER WORLD.

WANTED—I would like to hear from a first-class Rubber Mfg. Co. in want of A1 salesman for New York State. Address "C. P.," INDIA RUBBER WORLD.

SELLING AGENT—Will represent manufacturers in New York City and vicinity. Sell Druggists and Stationers. For particulars please address "B. H. S.," INDIA RUBBER WORLD.

WANTED—By an American, posted in the manufacture of Hard Rubber Goods, a position as Superintendent or Foreman, fully understands mixing and calendering. Fourteen years' experience. Best of reference. Address "M. L. M.," No. 1611 North Salina street, Syracuse, N. Y.

FOR SALE—Twenty tons unvulcanized boot and shoe scrap. Compounds, extra good. Address "Q.," INDIA RUBBER WORLD.

FOR SALE—Complete apparatus for the manufacture of **Hypo-Sulphide of Lead** for rubber use. The formula for its manufacture will be given with the sale of the apparatus, and explicit directions as to the best methods of procedure. The price for this will be exceedingly reasonable, as other matters engage the entire time of the proprietor. Address "T. Q. R.," INDIA RUBBER WORLD.

WANTED—Man to carry druggists' sundries in Middle and Southern States. Address "I. Q.," INDIA RUBBER WORLD.

FOR SALE—One screw press, 30x30, one 40x60; both in good condition, and will be sold cheap. Address "J. C.," INDIA RUBBER WORLD.

FOR SALE—A complete plant, in first-class condition, nearly new, for manufacturing Rubber Trusses, Supporters, etc. Must be sold on account of continued ill health; will be sold at one-half its value. Address R. E. HOVER, 420 Park street, Syracuse, N. Y.

SALESMAN—Wanted, good Travelling Salesman to sell Mechanical Rubber Goods and Supplies through Western Pennsylvania and Southern States on liberal commission. Address "G. P. R.," INDIA RUBBER WORLD.

WANTED—By a young man 23 years old, a well experienced cutter of ladies and gents' rubber garments, a position. Can furnish first-class references. Address, I. Lesser, 335 E. 80th Street, City.

WANTED—By a young man with five years experience in the rubber business, who has "tact, push and principle," a position as traveling salesman for some manufacturer. Address "Harrison," INDIA RUBBER WORLD.

WANTED—First-class salesman on mechanical rubber goods for New York City. Must have trade already established. Liberal salary paid for the right party, and line of goods furnished that are already popular on this market. Address A. B. C., INDIA RUBBER WORLD.

WANTED—A position by a young man who has handled novelties for the wholesale drug trade and for stationery. The advertiser is not out of a place, but is looking for a line for which there is a larger outlet than the one he is now carrying. Address Summer, INDIA RUBBER WORLD.

WANTED—By the Trades Information Bureau, 3 Tremont Place, Boston, the addresses of rubber manufacturers in need of skilled help of any kind.

WANTED—By a young man who is a pusher, willing to learn, a chance to sell goods on the road. Can furnish best of references as to character and ability. Address F. E. Y., INDIA RUBBER WORLD.

WANTED—By a young business man, with an intimate acquaintance with Pittsburgh trade, an opportunity to represent an Eastern firm. The best of references furnished. X. Y. Z., INDIA RUBBER WORLD.

Boston Rubber Shoe Co.--See page xxv.

New Pattern Rubber Mixing and Grinding Mills,

THE STRONGEST RUBBER PRESS MADE.

All sizes Churns and Spreading Knives for Gossamer Work.

TICHER'S PAT. FRICTIONAL SCREW JACKS

For Use in Rubber Factories.
Will Lift from 5 to 30 Tons. Has two Different Speeds. Far Ahead of the Hydraulic or any other Jacks.

Calender Rolls Ground at the Lowest Rates.

Rubber Machinery Repaired at Short Notice.

MOULDS FOR RUBBER and CELLULOID WORK A SPECIALTY.

OHL & HAEFNER,

15 Ailing Street, - - NEWARK, N. J.

PULVERIZED MINERALS AND EARTHS

ASBESTINE, FRENCH TALC, SOAPSTONE, BARYTES, BASTARD BARYTES,
CHINA CLAY, SILEX, GROUND FLINT, COMMERCIAL ROSIN.

PREPARED ESPECIALLY FOR RUBBER WORK.

BAYAUD & STEVENS, 60 New Street, New York.

MATTSON RUBBER COMPANY,

8 COLLEGE PLACE, NEW YORK.

FINE CALENDERING

A SPECIALTY.

FOR ALL BRANCHES OF THE RUBBER TRADE.

Rubber Manufacturers, Attention!

Do you want to Ventilate? - - - - - - - Do you want a Drying Fan?

Do you want an Exhaust Fan for any purpose?

If so use the CLARK LIGHT RUNNING EXHAUST FANS made with Self-Oiling Bearings and Adjustable Blades. Durable.

Fans sent on 30 days' Trial. 24 Page Catalogue Free.

GEORGE. P. CLARK,

(Box Y.) WINDSOR LOCKS, CONN.

EUREKA FIRE HOSE CO.

No. 13 BARCLAY ST., NEW YORK,

ARE THE LARGEST MANUFACTURERS OF

RUBBER-LINED COTTON HOSE

For all purposes in the United States or elsewhere.

Has more Hose in actual Fire Service at the present time than all other brands of Fire Hose combined.

With a record for DURABILITY unequalled, proven by long and severe service EVERYWHERE.

Cotton Hose of all grades; also Linen Hose, both Plain and Rubber-Lined.

"Eureka Mill Hose," "Eureka Garden Hose," "Eureka Steam Hose," "Eureka Underwriters" Best Linen Hose

ARE SPECIALTIES.

Also invites the attention of the trade and consumers of belting to the new Cotton Machine Belting, called the

"EUREKA BELT." A COTTON MACHINE BELTING,

A Cheap and Perfect Substitute for Leather or Rubber Belting. Address,

13 BARCLAY STREET, NEW YORK, For Prices and Samples.

J. FRANCIS HAYWARD,

Wholesale Dealer and Jobber of

RUBBER ❋ GOODS.

LARGEST VARIETY OF ANY STORE IN BOSTON.

160 Congress, cor. Franklin St., - BOSTON, MASS., U. S. A.

SALESROOMS:

HOPE RUBBER CO., PROVIDENCE, R. I.
LOWELL RUBBER CO., LOWELL, MASS.
WORCESTER RUBBER CO., WORCESTER, MASS.
NEW HAMPSHIRE RUBBER CO., MANCHESTER, N. H.
LAWRENCE RUBBER CO., LAWRENCE, MASS.
FALL RIVER RUBBER CO., FALL RIVER, MASS.

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